

IDAHO WHITE PINE

A G E N U I N E W H I T E P I N E



ITS PROPERTIES
USES AND
GRADES

Compliments of
Weyerhaeuser Sales Company
First National Bank Building
Saint Paul, Minnesota



Dense forests of tall, straight-trunked pines like these, serve to supply the nation's needs with nature's finest building lumber—Idaho (Genuine) White Pine.

FOREWORD

This is a remarkable age, an age that finds available materials and commodities in number and variety unheard of in the past. Such abundance and diversification of products have been made possible in no small measure through national advertising, sales promotion and highly organized distribution methods. The buying public is deluged with the claims of competing products. As a result, the consumer today finds it more difficult than ever before to select with assurance the product most suitable for his particular need.

Actual utility for a specific use should be the yardstick by which a product is judged. This booklet has been prepared with that principle in mind. The facts about IDAHO WHITE PINE and the requirements essential for specific uses are presented in convenient form. With these available the consumer may draw sound conclusions.

Reliable sources of information have been utilized in the preparation of this publication, including authoritative data supplied by federal and state governmental agencies. An important source also is the Research Laboratory of the Western Pine Association. The establishment of this laboratory in 1925 was a unique departure in lumber trade association effort. It is the pioneer undertaking of its kind in the lumber industry. It has long since proved its value and has given both the manufacturer and user of Idaho White Pine a very definite advantage through a consistent program of research which has for its object the improvement of the manufacture and use of this wood.

WESTERN PINE ASSOCIATION

Yeon Building

Portland, Oregon



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The History of Pine

Since the early colonial days the soft textured pines have found universal favor in America. The white pine of the northeastern states was employed extensively in the construction and development of the northern colonies, and the wisdom of those pioneers is today witnessed by the wonderful old structures found throughout New England, still serviceable and beautiful after many generations of use. With the opening of the great

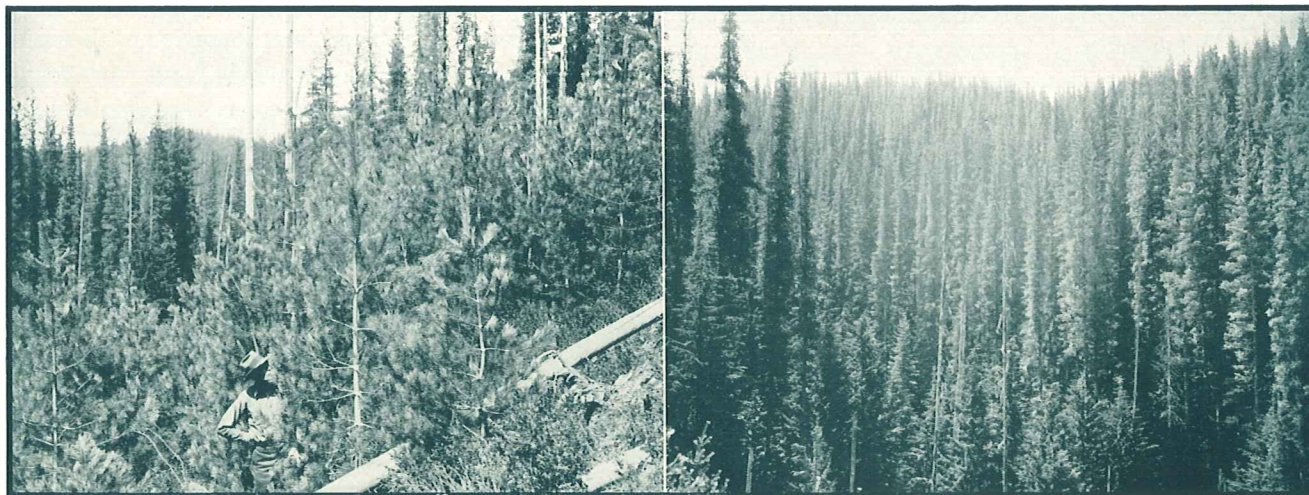
Mississippi river territory the lumber needs of this rapidly developing section of the nation were for many years met largely by the white pine from the forests of the lake states. Today the continued appreciation of soft textured pine by the American people is evidenced by the demands now made upon the vast soft pine timber stands of the western states, where IDAHO WHITE PINE, Ponderosa pine and Sugar pine are found.

Botanical Classification and Commercial Name

The soft textured pines as a group are distinct from the so-called hard pines, or southern yellow pines, which are heavier, harder, more pitchy and have greatly different values and uses. The four soft pine species of commercial importance in the United States fall into two botanical classifications. One class, the genuine white pines, includes *Pinus monticola* (IDAHO WHITE PINE¹), *Pinus strobus* (Northern white pine), and *Pinus lambertiana* (Sugar pine). The other class includes *Pinus ponderosa* (Ponderosa pine).

The foliage of the genuine or true white pines is distinguished by the occurrence of the needles in clusters of five in a sheaf or bundle. It has caused true white pines to be known as "five needle" pines. The wood of each is so similar that, as stated in the U. S. Forest Products Laboratory Technical Note No. 215, "there is no absolutely positive means of identifying the three white pines one from another microscopically. One familiar with the pines, however, can usually classify the species by growth characteristics. Western (Idaho) white pine is more like eastern (Northern) white pine than is Sugar pine, but lumbermen can usually distinguish it by the color of its knots, which ordinarily are darker around the edges than are the knots of eastern white pine." In fact, to all intents and purposes, IDAHO WHITE PINE is interchangeable with Northern white pine.

¹ Idaho White Pine is also called Western White Pine in botanical publications. In specifications, only the trade name "Idaho White Pine" should be used.



(Left) Thrifty young pines and (Right) legions of older trees augment the stands of old-growth timber in the forests of northern Idaho and assure the lumber user of a supply of Idaho (genuine) White Pine both now and for years to come.

Timber Supply and Lumber Production of Idaho White Pine

IDAHO WHITE PINE timber has a comparatively restricted commercial range. It is most abundant in Idaho north of the Salmon river, and in adjacent portions of eastern Washington and western Montana. Estimates by the U. S. Forest Service place the present merchantable stand of IDAHO WHITE PINE at about sixteen billion feet B.M., while the average annual production is now approximately five hundred million feet board measure. These figures are of singular importance to the user and prospective user of white pine lumber, as they should dispel the sometimes expressed fallacy that the supply of white pine is practically exhausted. The manufactured product is now available in a volume which provides a ready supply to meet current demands. Even if the existing non-merchantable stands of small timber, new growth and forestry management leading to greater future yield are given no consideration, the present merchantable timber stands of IDAHO WHITE PINE assure an adequate supply.

The Manufacture of Idaho White Pine

The inherent quality of IDAHO (genuine) WHITE PINE has always justified the high standards employed in its manufacture. For many years this lumber, and the species with which it is associated, have occupied an enviable position in lumber markets because of the close attention given to seasoning, milling and grading of these products. Particularly is this true of IDAHO WHITE PINE. The mills are equipped with modern machinery, and the methods employed throughout the entire manufacture of IDAHO WHITE PINE are to the end that this wood will be furnished in a condition which is in keeping with its high quality.

Milling

The natural soft, even texture and uniformly straight grain of IDAHO WHITE PINE permits unexcelled millwork and this lumber, after dressing, has a smooth, satiny surface. It is worked to standard sizes and patterns *after* seasoning, or, in other words, after the shrinkage which is normal to drying has taken place. At member mills of the Western Pine Association, the dimensions, surfacing and general appearance of all worked material are currently checked by Association inspectors at the time monthly grade inspections are made at each plant. IDAHO WHITE PINE is an exceptionally well manufactured product, and all shipments are uniform in this respect.



Idaho White Pine old-growth trees. Direct descendants of the Cork White Pine of New England and Lake States fame.

Seasoning

IDAHO WHITE PINE is seasoned without difficulty. It is dried successfully in the kiln and in the yard. Practically all plants kiln dry at least a portion of their cut. The climatic conditions of the region favor effective air seasoning.

The manufacturers of IDAHO WHITE PINE have kept pace with all developments tending to improve seasoning practice, and have always recognized the importance of furnishing lumber that is suitable to the needs of the consumer. They have felt that the adoption of a written standard of seasoning would, by itself, be of little value unless also a means were perfected for measuring accurately and quickly, and in a practical way, the moisture content of any board. On that account moisture content specifications, which might temporarily set up great hopes, but which in reality could assure nothing of practical value to the user, nor bring about an appreciable improvement in existing conditions, have purposely been avoided.


On the other hand, the mills, through their regional organization—the Western Pine Association—are the only ones in the entire lumber industry to establish and maintain a lumber seasoning department with personnel especially trained in this work. This action furnishes evidence of their convictions as to the desirability of offering the buyer a ready source of supply of dependably dry lumber. IDAHO WHITE PINE, as a product, is well seasoned before shipment, and no lumber goes to the consumer in better condition for immediate use.

Grading

IDAHO WHITE PINE is graded under the rules of the Western Pine Association, which for more than a quarter of a century has been the recognized authority on the grading of the region's woods. Its Bureau of Grades is composed of highly trained inspectors, who check the work of the plant graders at member mills each month, assuring to the users of IDAHO WHITE PINE closely graded shipments from every mill. In the event of a dispute over a shipment the services of the Bureau of Grades are available for reinspection when requested either by the shipper or the purchaser.

Concise, informally written descriptions of IDAHO WHITE PINE grades are presented in another part of this booklet. Each grade is illustrated by actual photographs of representative pieces. From these one can familiarize himself with the grades of IDAHO WHITE PINE.

Identified Lumber

 This seal is the official insignia of the Western Pine Association. The distinctive and now well known species mark, *WVP*, is registered in the U. S. Patent Office. These marks are imprinted on IDAHO WHITE PINE to permit easy identification of lumber manufactured under Association inspection and according to its high standards of seasoning, milling and grading. Such uniformity of products from widely separated mills can be maintained only through the constant supervision which the member mills receive from the Bureau of Grades.



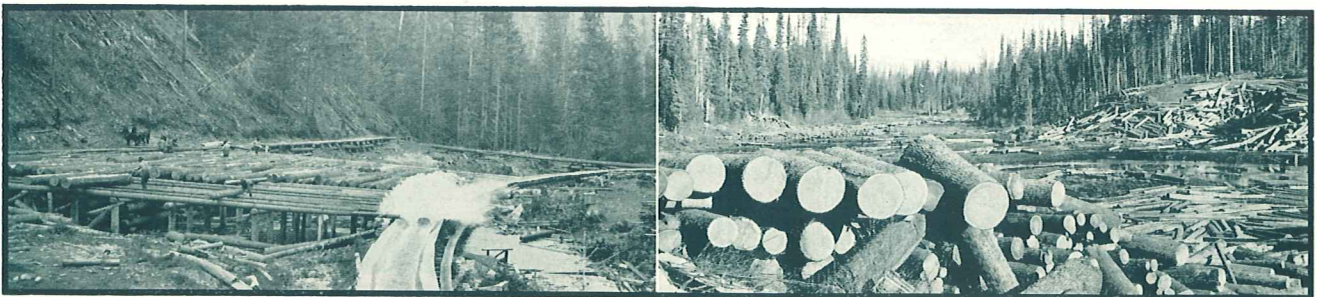
Water plays an important part in the transportation of Idaho White Pine logs from the woods to the mill. It also serves to cure the logs before they are sawn.

Wherever a buyer desires his material marked as to grade this will be done upon request by any of the Association mills manufacturing IDAHO WHITE PINE. Another means of protection offered by these mills is a "Shippers Certificate of Car Contents" forwarded in the car as a form of manifest to certify by species, grades and sizes the amounts and exact description of items loaded by the manufacturer. A more detailed explanation of official grade marks is given on page 63.

American Lumber Standards

Standardization has been given great emphasis of late in all industries. The lumber industry, keeping pace with this trend, has adopted American Lumber Standards. In this manner there has been established standard nomenclature for the commercial lumber species, standard thicknesses, standard minimum widths and standard basic provisions for the grading of lumber.

IDAHO WHITE PINE is one of the important woods which is manufactured and graded in close conformity to American Lumber Standards. IDAHO WHITE PINE is the commercial name for *Pinus monticola*. The product is always milled to standard thicknesses after it has been seasoned. The finished widths are the same, or slightly greater, than the adopted minimums. The basic grade classifications for yard lumber under American Lumber Standards provide for five Board grades. This segregation is followed in the rules governing IDAHO WHITE PINE. But it is in contrast to the practice employed in the grading of many other softwoods of importance,



River-driving, true to the traditions of early White Pine logging, and fluming (floating logs down man-made waterways) are two methods commonly used to move Idaho White Pine logs economically out of a mountainous region.

where the Board product of the log is segregated into only three or four grades. Obviously, though the grade designations are the same for the different woods, similar terms do not indicate, nor are they intended to indicate, that the grades are comparable. In fact, aside from the number of grades there is a very appreciable variation among species in inherent properties, characteristics, and general utility values which makes it impossible to formulate basic descriptions (that will apply to all woods) other than those which are expressed in the broadest terms. Such descriptions have been written into American Lumber Standards. The nearest approach to a similar grade in all species is the lowest recognized grade in each. The upper Board grades of woods segregated into five Board grades are of higher average quality and utility than similarly named grades of those woods which have fewer Board grades. The former also will have narrower limits of permissible defects within a single grade. In short, similar terms should not be construed to mean that all kinds of lumber of the same grade are interchangeable for a specific use.

Board price levels rather than grade descriptions offer a better basis for determining similar values. On pages 32 to 35 will be found the recommended grades of IDAHO WHITE PINE for specific uses.

Board Grade Segregations of Several Important Commercial Species

FIVE BOARD GRADES (American Lumber Standard)	FOUR BOARD GRADES	THREE BOARD GRADES
IDAHO WHITE PINE	Southern Yellow	Douglas Fir
Ponderosa Pine	Pine	Western Red Cedar
Northern White Pine	Eastern Hemlock	Redwood
Sugar Pine	Cypress	West Coast Hemlock
Larch		Sitka Spruce

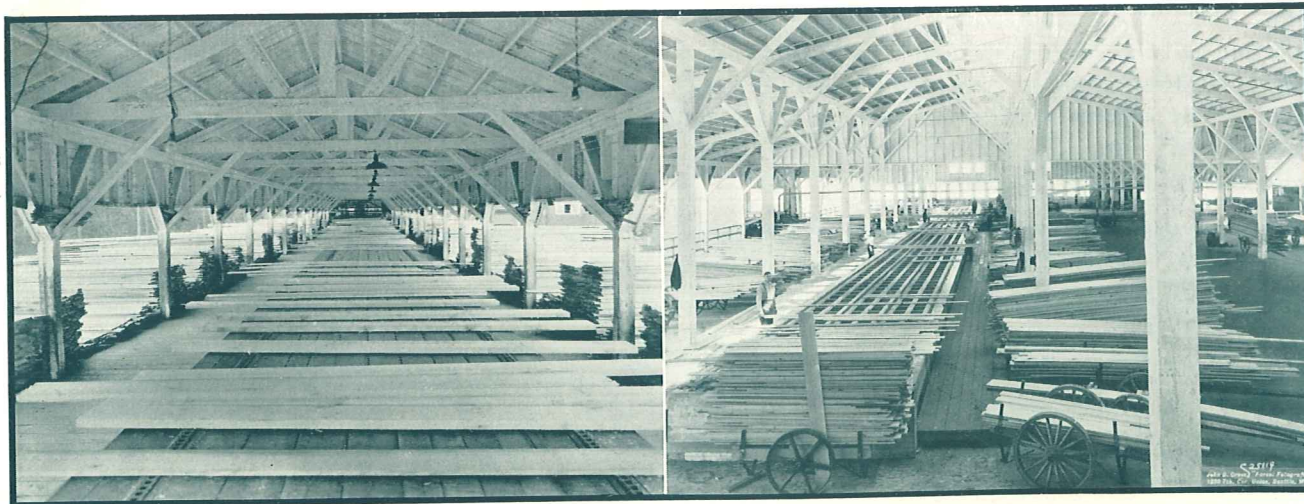
Characteristics and Properties of Idaho White Pine

Appearance

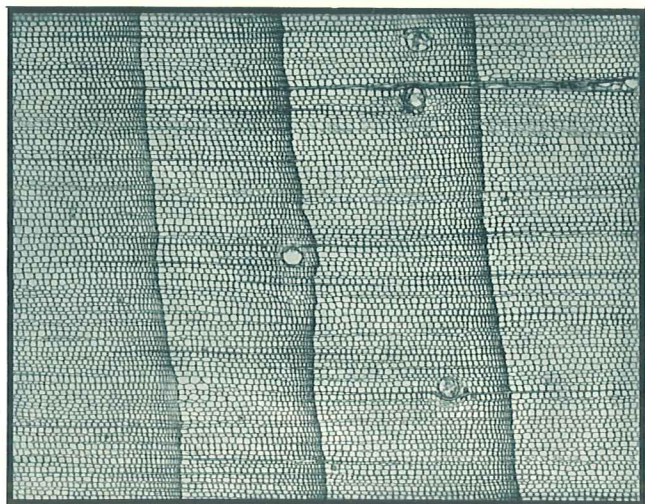
The wood of IDAHO WHITE PINE is light in color, varying from nearly white to a pale reddish brown. Because of its uniform cell structure this wood presents a very inconspicuous moiré-like grain. In many pieces the smooth surface of IDAHO WHITE PINE produces a pleasing dappled effect.

Structure

IDAHO WHITE PINE is distinctly straight grained, soft and even textured. The summer wood is relatively inconspicuous and scarcely any denser than the spring wood. These characteristics account in part for its unexcelled smoothness and excellent appearance when surfaced, and for the ease with which it is worked, both by hand and machine tools.



Careful attention is given to the grading of Idaho White Pine both at the "green-chain" (Left) where the freshly sawn boards are segregated by grades and sizes, and at the "dry-sorter" (Right) where a second grading of the lumber is made after it is seasoned and milled. The final grading takes place at the freight-car door.



Photomicrograph of cross-section of Idaho White Pine showing its thin and even cellular structure throughout both the springwood and summerwood (or grain). This condition accounts for the ease with which Idaho White Pine is milled.

Other Characteristics

The wood is practically odorless and tasteless, and comparatively free from heart shake, resin and pitch pockets. A characteristic of the species is its small sound knot.

Weight

The specific gravity of IDAHO WHITE PINE is .36 as compared to an average for the white pines of .35, which indicates that the dry weight of this wood is nearly the same as the average of the white pine group. At a moisture content of 12% the mean weight of IDAHO WHITE PINE is 27 lbs. per cubic foot, while the average of the white pines is 26 lbs. The variation among the important commercial softwoods is from 23 lbs. for Engelmann spruce to 41 lbs. for long leaf pine. Douglas fir (Coast type) weighs 34 lbs. per cubic foot.

The estimated shipping weights of the Western Pine Association for IDAHO WHITE PINE are:

ITEM	Lbs. per M Ft. Board Measure
One-inch Selects Surfaced or Pattern ...	1900
One-inch Common Surfaced or Pattern .	1900
One-inch Rough (any grade)	2400
Thick Selects, Thick Common, S2S.	2200
Thick Selects, Thick Common, Rough ..	2600

Strength

The soft-textured pines and other woods of relatively low specific gravity do not have strength values as high as those of the harder, denser woods such as the Douglas fir, larch and Southern yellow pines. IDAHO WHITE PINE is, however, unusually strong for its weight and possesses ample strength for all recommended uses. Although it has the same hardness as the Northern white pine, the IDAHO WHITE PINE excels all the white

pinus in bending strength, compressive strength, stiffness and shock resistance. This is, of course, a very decided advantage in uses requiring a light but strong wood.

A comparison of the important strength properties is given below by means of index numbers which indicate the relative position of several species:

	IDAHO WHITE PINE	WHITE PINES AVERAGED	ENGEL- MANN SPRUCE	LARCH
Bending (as a beam)	69	65	55	89
Compressive (as a post) .	75	70	57	104
Stiffness	137	119	100	153
Hardness	35	36	32	64
Shock resistance	65	58	45	81

The question is sometimes raised as to the relative effect of air seasoning and kiln drying upon the strength of wood. Some think that kiln-dried wood is brash and not equal in strength to wood that is air-dried. Or it is said that kiln-dried wood is much stronger than air-dried. Conclusive comparative strength tests show that good kiln drying and good air drying have the same beneficial effect upon the strength of wood.

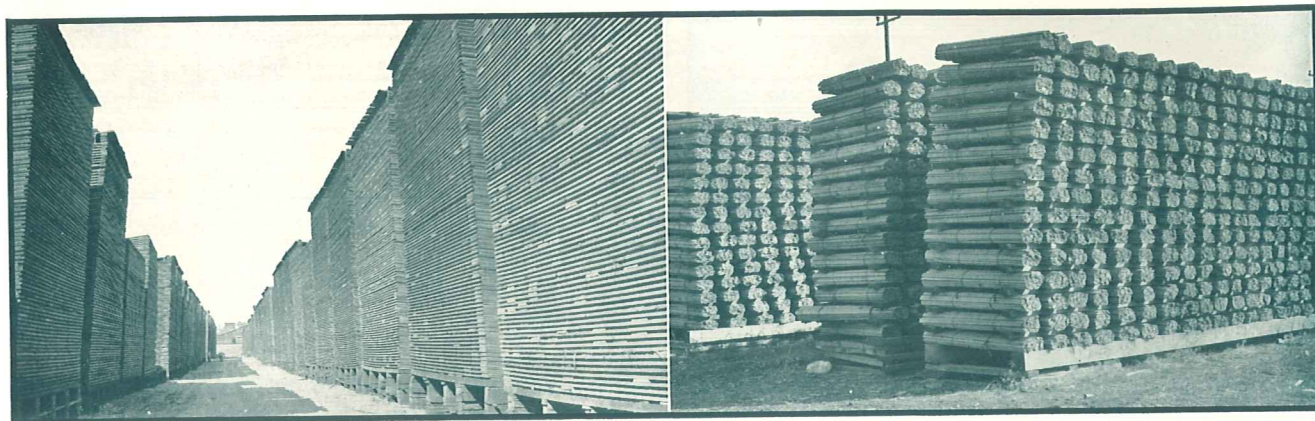
Resistance to Splitting

The soft-textured pines as a group are noted for their ability in this respect. It is a by-word in the carpentry trade that these woods nail without splitting. As a rule the higher the density of a wood the greater is the tendency for it to split and splinter. Thus IDAHO WHITE PINE, because of its low density, as well as its texture and grain, nails more easily and offers greater resistance to splitting than do the harder, denser woods. IDAHO WHITE PINE has relatively low shrinkage, is easily dried and goes to the market in well seasoned condition with the result that the checking and splitting of this wood after shipment is at a minimum.

Nail and Screw Holding Ability

The higher the specific gravity of a wood, the greater the resistance it offers to the withdrawal of nails. But under actual service conditions nail holding ability involves more than this. The lighter, low density woods, such as IDAHO WHITE PINE, are nailed easily and offer great resistance to splitting. This means that with these woods proportionately larger nails may be employed, which more than offsets any advantage of the denser woods in resistance to actual withdrawal of nails.

Another factor of importance is the relative dryness of lumber when nailed. Actual tests have shown that nails are held more firmly by well seasoned stock than by poorly seasoned stock. In addition, a very appreciable loss occurs in nail holding ability as poorly seasoned stock dries out after nailing. IDAHO WHITE PINE is shipped dry.



Millions of feet of Idaho White Pine lumber (Left) and lath (Right) are successfully air-seasoned due to the favorable atmospheric conditions of the region, the careful stacking of the lumber and arrangement of these large storage yards.

The nail holding ability of IDAHO WHITE PINE results from its natural resistance to splitting and its thorough seasoning. In IDAHO WHITE PINE nails can be driven easily, close to the end of a board, without fear of splitting the piece and without the need of first drilling holes for the nails. This, of course, means faster work. Nails also drive straight and deep in IDAHO WHITE PINE and are not deflected to the outside of a piece, an annoyance which may occur in lumber with hard and easily separated grain. The satisfactory performance of IDAHO WHITE PINE in this respect is in part responsible for its being highly prized as a box and crating wood. White pine is one of the three species which largely dominate this field.

Ability to hold screws involves practically the same factors as with nails and consequently IDAHO WHITE PINE ranks high in this respect. Like the other soft-textured pines it has the added advantage that in the placement of screws the fiber is distorted and broken to a lesser extent than is the case with the heavier woods. As a result, screws are gripped more firmly, particularly after once withdrawn and replaced in the same holes.

Workability with Machine and Hand Tools

The splendid working properties of the white pines are axiomatic in the woodworking field. After seasoning, a wood machines better, and works more easily with hand tools if it has soft texture, thin and even cell structure, straight grain, medium length fibers, is free of resinous masses and shows no tendency to split or sliver. IDAHO WHITE PINE possesses all of these properties and, of course, excels in this respect. It machines to a high degree of smoothness, cuts easily and accurately with or against the grain, and is readily worked with both machine and hand tools. The widespread use of IDAHO WHITE PINE for pattern work is due in large measure to its excellent working properties.

Ease of Drying

From the standpoint of both the time required for thorough seasoning and the liability to develop defects, IDAHO WHITE PINE, because of its structure, low shrinkage and type of knots, is dried without difficulty. As a result, IDAHO WHITE PINE lumber as shipped is in excellent condition for use, a factor which the user cannot over-emphasize in his choice of woods.

Shrinkage

All wood shrinks as it dries and swells as it absorbs moisture. The heavier woods shrink and swell more than do the lighter woods with any given change in moisture content. Obviously this factor becomes of major importance in the selection of a wood for the many uses where a minimum change of dimensions is essential, as, for example, sash. In common with the other soft-textured pines, IDAHO WHITE PINE has a relatively low rate of shrinkage. This property of the wood accounts in part for its great popularity in the millwork and cabinet fields.

Some very interesting facts about shrinkage should be mentioned. Contrary to rather common belief, sapwood does not shrink more than heartwood. Shrinkage across the grain of any wood is, on the average, almost twice as much tangentially (width measurement of a flat-grained piece) as it is radially (width measurement of an edge-grained piece). This means with the heavier woods it is desirable to recommend only vertical or edge-grained stock for items where minimum change of dimensions is important. Yet, vertical grained pieces having greater shrinkage, not uncommonly end check badly or split along the grain at the ends of the piece. Such restrictions as to type of material are unnecessary in IDAHO WHITE PINE. Also, raised grain, which develops from uneven shrinkage in flat-grained pieces of some of the heavier woods, is not encountered in IDAHO WHITE PINE because of its low shrinkage.

Ordinarily, the smaller the difference between radial and tangential shrinkage in a wood, the less is its

tendency to check in drying. This difference in IDAHO WHITE PINE is relatively small, being the same as the average for the white pine group.

Defects Due to Seasoning

The most modern dry kilns and methods are employed in the seasoning of IDAHO WHITE PINE. This, together with the natural properties of the wood, results in a minimum development of defects during the drying process. All of the pines and many other woods are subject to the occurrence of blue stain during air seasoning. Favorable climatic conditions in the producing region and the use of practical preventative measures have very largely reduced the liability of blue stain in the air seasoning of IDAHO WHITE PINE. Further, with the very marked increase in dry kiln capacity, this defect is usually avoided by kiln drying the stock that is most susceptible.

Blue stain has no weakening effect on the strength properties of wood, nor is it an early stage of decay. It is caused by minute, non-wood destroying fungi which grow in the cell cavities of sapwood. The bluish color is the blending of the colors of the wood and the fungus threads within the wood. On that account blue stain is objectionable only as it impairs the appearance of a board. Such a board is not recommended for items which are to be given a natural finish. They are suitable, though, for painted woodwork, because of their smooth absorbent surfaces.

Ability to Stay in Place

The ability of wood to stay in place, or the extent to which it swells, shrinks, warps and cups, under actual use conditions, depends primarily on the amount of shrinkage that occurs. Thus, because of its low rate of shrinkage, IDAHO WHITE PINE is classed as one of the premier woods in this respect. Another factor affecting the ability of wood to stay in place is the moisture content at the time of use. Here again, due to its well seasoned condition when shipped, IDAHO WHITE PINE meets exacting requirements.

Permanence

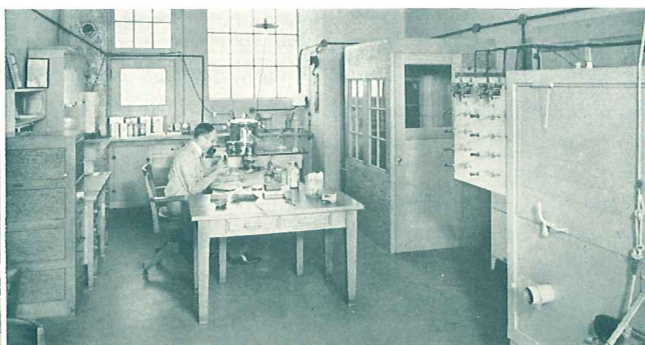
With continued use all materials are subject to physical depreciation either to a greater or less extent. However, selection of building materials should not be based solely on this factor for, with reasonable care and maintenance, lumber and also other materials will endure far beyond the life or usefulness of the average well constructed building. Convincing proof of this is to be found in every community where residences and office buildings alike are torn down to be replaced by new and more modern structures while the materials from which they were built are still in good condition. Obsolescence of a building, then, usually determines the permanence of the materials and it may be traced to one of the following conditions:

1. Progressive neighborhood decline in older residential sections.
2. Higher standards of living.
3. Development of new residential districts.
4. New styles of architecture.
5. Changed use and occupancy on account of increased urban population.
6. Increased land values.

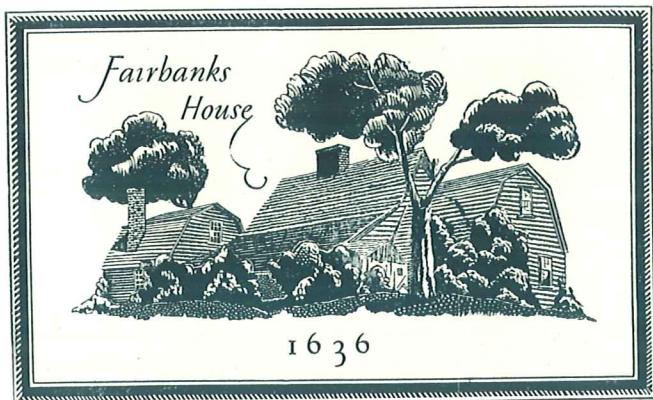
Many buildings, originally constructed of IDAHO WHITE PINE, have stood the test of time here in America for decades⁴ and are still in daily use. In some cases they have been remodeled to meet the changes required by modern conditions, so well kept is the woodwork that remodeling has been more economical than to tear down and build anew. In other instances the buildings still remain in their original form.

The inherent lasting properties of the wood may be modified through the construction methods employed which, in turn, depend upon the workmanship in the

⁴ IDAHO WHITE PINE has been manufactured in quantity about thirty years. In northern Idaho the early settlers used this wood for churches, homes, stores and other buildings, many of which are still well preserved after 85 years of constant use. Other well known installations of genuine white pine are the early colonial homes of New England, like the Fairbanks House at Dedham, Mass. which dates back to 1636.



Research Laboratory of the Western Pine Association which constantly is working to improve the quality and serviceability of Idaho White Pine.



At Dedham, Mass. Built of White Pine and never painted.

building. Were this not so, less attention would be given to the construction of buildings that are planned for longer than average use.

Weathering, one factor which may cause deterioration, is due primarily to unequal shrinking and swelling of wood following periodic changes of moisture content. The surface layers of a board, if exposed to rain and sunshine, or to constantly varying humidity conditions of the atmosphere, alternately absorb or lose moisture rapidly. This action causes a very slow breaking down or separation of the surface fibers and in some woods results in marked raising of the grain, checking, cracking, and splitting. Such changes are especially noticeable on exposed woodwork that has never been painted. It is of importance in such uses as siding, sash, window frames, porch and cornice woodwork, and other exterior trim. Weathering may be avoided by selecting a wood like IDAHO WHITE PINE whose properties naturally resist deterioration from this cause. An additional advantage is its ability to take and hold paint, for a good paint coating will prevent weathering by retarding the absorption of water to such an extent that large inequalities of moisture within the lumber are avoided.

Decay of wood, the second factor which may cause deterioration, has sometimes been considered of more importance than its infrequent occurrence warrants. In fact, to some extent its overemphasis has obscured the satisfactory service record of wood during many generations in America. This physical condition, like weathering, is preventable if the causes of decay are known. Decay is a breaking down of the wood structure due to the action of tiny living organisms called fungi. Four things are necessary for their continued growth: (1) sufficient moisture, (2) sufficient air, (3) favorable temperatures, and (4) abundant food supply.

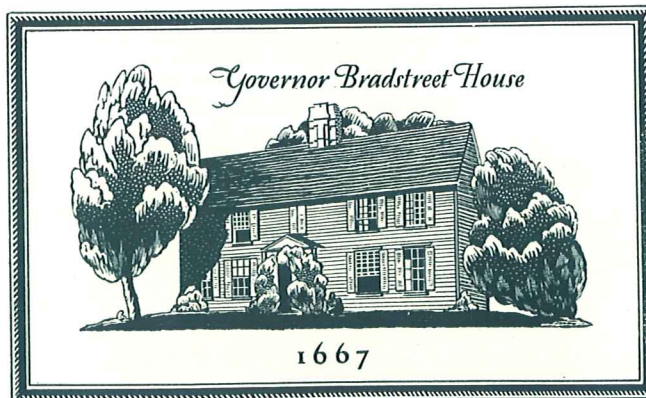
Absence of air prevents the development of decay in wood that is completely saturated, as when it is submerged in water or deeply buried in the ground. Likewise, wood that remains dry does not decay. So, by controlling a single factor decay can be prevented. Of the four, the one most practical to control is moisture.

Maintenance of a moisture content below 25% is sufficient to bring about this result. As has been explained in the discussion of weathering, tight joints and other good construction practices, together with a good protective coating of paint, which greatly retards the absorption of water, are simple yet effective means of overcoming decay. As most buildings are repainted at fairly regular intervals to improve their appearance, reasonable protection is usually maintained. At these times, though, care should be taken to cover thoroughly with paint the locations that are most susceptible to decay. From the standpoint of economy IDAHO WHITE PINE is especially recommended because of the ease with which this variety of wood absorbs and retains paint.

The great bulk of the wood in use is kept so dry at all times that it lasts indefinitely. On the other hand, wood in contact with the soil, as when resting upon or partly buried in the ground, is likely to decay. Thus decay must be guarded against in fence posts, railroad cross ties, mine timbers, mud sills, and in other similar items. Ordinarily only treated wood should be used for such purposes. In practically all other places, except perhaps under extreme conditions as may be found in dye plants or in paper and textile mills where high humidities and excessive condensation are constantly present, decay resistance is not a factor of importance in the selection of suitable materials.

Several years ago there was distributed a table⁵ which attempted a rough classification of the decay resistance of woods for uses involving actual contact with the soil. It was based on service records of timbers (principally poles, posts, ties, and mine timbers) placed in contact with the soil, and on personal observations. The table indicated that even under such unfavorable conditions, where now practically all wood is treated if long service is expected, the wide variety of climatic, soil, and moisture conditions to which timbers might be exposed as well as the great difference between individual timbers of the same species precluded exact comparisons. The

⁵ Technical Note 173, U. S. Forest Products Laboratory.



At North Andover, Mass. Built of White Pine and still standing.

immediate misuse to which this table was put caused its prompt withdrawal from further circulation. Unfortunately this has not prevented its continued misuse, with the result that inestimable harm has unjustly been done to wood generally.

From the preceding discussion of the factors influencing decay, also the vast number of uses for wood, and particularly the almost limitless variations in the conditions surrounding these uses, it is obvious that woods cannot be accurately rated as to their relative decay resistance under all conditions. The liability of decay to develop in wood will vary through the entire range of conditions from actual contact with the soil in a warm, humid climate to the top of a desk in a well ventilated and heated office building. In the first instance, *any* wood if not given a preservative treatment will decay. In the latter case, *no* wood will decay. In many common uses, under certain conditions *any* wood will decay in a few years because of faulty construction or inadequate maintenance. This is no discredit to wood which, if given fair treatment, will last for the life of the building.

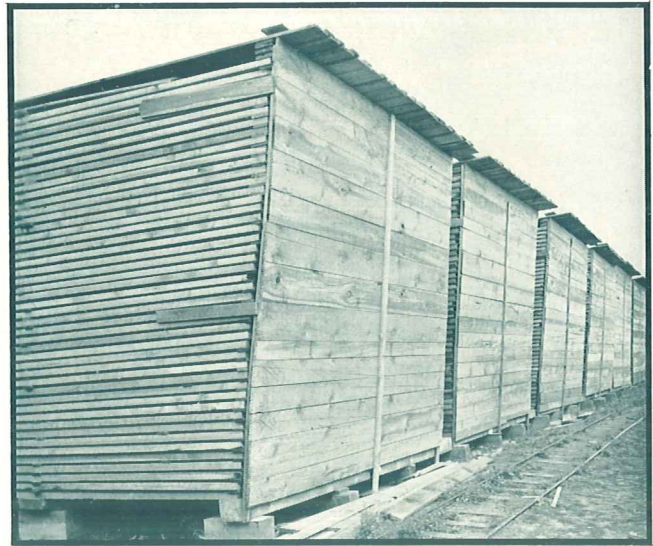
Most of the pines, including IDAHO WHITE PINE, are given an intermediate rank as to decay resistance in contact with the soil. In common with all woods it should ordinarily be given preservative treatment when placed in such locations. For all recommended uses, IDAHO WHITE PINE will not deteriorate because of decay if sound principles of construction and reasonable maintenance standards are adhered to.

Ease of Painting and Finishing

The ability of a wood to take and hold protective coatings is an important factor in its use. Seldom is a wood left unpainted or unfinished under modern standards of living. In the case of exterior uses proper painting improves the appearance. But of even greater importance, it retards the absorption of moisture and thus minimizes weathering, change of dimensions, and liability of decay. Freedom from change in dimensions is quite essential where ease of movement is desirable, as for example, in sash and doors. A satisfactory finishing of interior woodwork is required to obtain desired decorative effects and to permit easy cleaning without possible damage to the material.

Paint failure on wood can result from a variety of causes. Cheap paints, improper application of good paints, or faulty construction of the woodwork may be directly responsible.

Faulty construction causes paint failures when it allows the entrance of water back of the paint film. In so doing, the moisture content of the material is raised. When excessive moisture is present it is almost sure to be accompanied by blistering and peeling of paint.

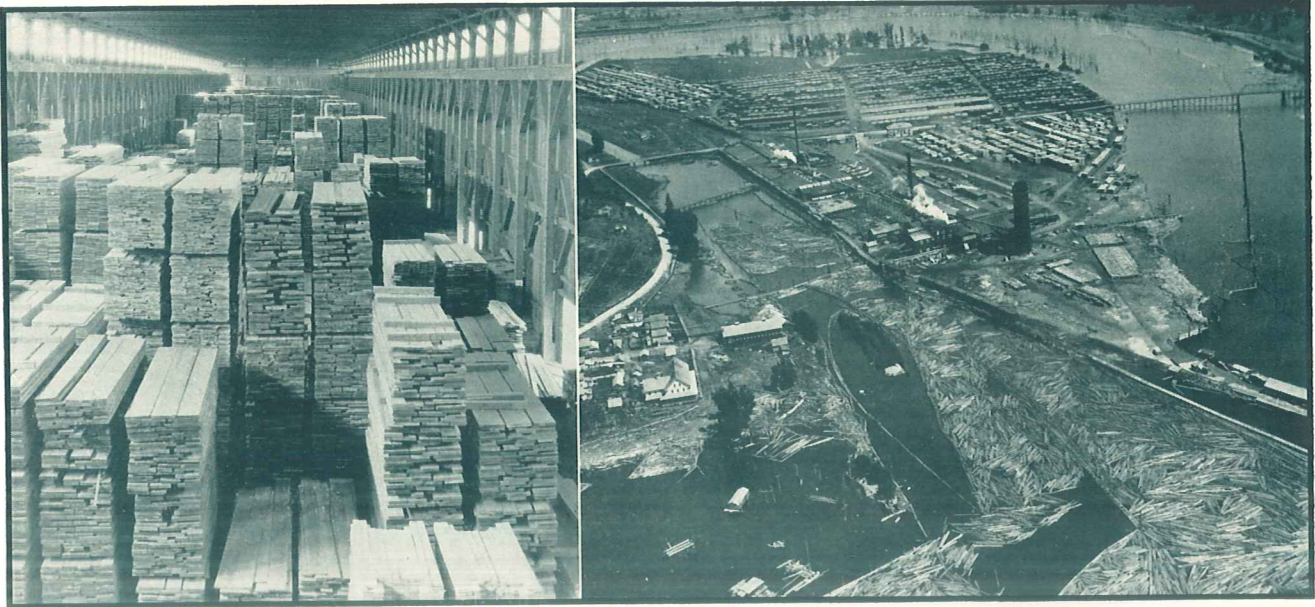


Stacks of Idaho White Pine Thick Selects used largely for pattern-making are given special attention to insure uniform seasoning.

Practices which can bring about this difficulty, and which therefore should be condemned, are:

1. Poorly installed flashings or entire lack of metal flashing around window and door openings, at junctions of dormers and roof, or of porch and sidewall.
2. Careless fitting of siding against trim at windows and doors, and at corners.
3. Poor joining of siding, trim, cornice and porch work, also poor joining of window sill and jamb.
4. Lack of provision for ventilation under porch steps, and porch columns.
5. Placing untreated woodwork in contact with the ground where it can readily absorb moisture.
6. Applying siding over rain-soaked or ice-covered sheathing.
7. Exposure of finishing lumber, window frames, doors and sash to storms or wet plaster.
8. Painting woodwork that has been rained upon, before it has dried out.
9. Poorly seasoned lumber.
10. Failure to seal with aluminum or white lead paint all joints that are known to be most subject to decay.

Grain raising and similar action in woods of high shrinkage not uncommonly crack the paint film. The presence of pronounced pitch, gum, and natural oils in wood is apt to cause discolorations and other difficulties. In general the soft, even-textured woods take and retain paint better than the harder, denser woods.



Large quantities of Idaho White Pine lumber are stored under cover in huge "dry sheds" (Left) facilitating the handling of rush orders. (Right) Aerial view of a typical Idaho White Pine sawmill showing plant facilities, log storage, and air seasoning yard.

The excellent painting and finishing characteristics of IDAHO WHITE PINE and the other white pines are, of course, widely recognized. It provides a perfect base for paints, enamels and other finishes. IDAHO WHITE PINE requires fewer coats and less repainting than most woods. It does not require special paint mixtures nor other than ordinary methods of application for good results. Paints flow smoothly and freely over its sleek surface.

The wood is attractive in a natural finish, protected only by varnish, or by linseed oil and wax. Oil stains also are effective. A weathered brown is quite popular now on knotty pine paneling to produce an early American effect. As IDAHO WHITE PINE ages there is an added mellowing of its color.

Penetrability of Preservatives

IDAHO WHITE PINE, because of its thin-walled and even-celled structure, permits the maximum depth and uniformity of penetration of preservatives and fire-retardant compounds with the usual methods of treatment. Lumber so treated will give better service than when the penetration is superficial or spotty.

Insulation

Among building materials of the rigid type, the high insulating value of wood is without parallel. This quality of wood has long been known and utilized.

In general, the relative efficiency of different woods as insulators against heat or cold varies inversely as the specific gravity. Because of its low density, the thermal conductivity of IDAHO WHITE PINE is extremely low and its insulating value exceeds that of most woods. This property gives added value in such items as sheathing, roof boards, sash, doors, and siding, where IDAHO WHITE PINE is widely used.

Ease of Gluing

IDAHO WHITE PINE, on the basis of both laboratory and commercial experience, is grouped with those woods which are given first rank in ease of gluing. It is admirably suited to all types of factory and shop use where glued-up construction is required.

Adaptability

Suitability for diversified use is obviously a factor which must be considered in the selection of a wood. If a wood is suitable for a wide range of uses, it is more readily available to the consumer than is a wood of restricted or rather specialized use which naturally has more limited distribution. IDAHO WHITE PINE is truly an all-purpose wood. Its versatile nature is clearly indicated by the preceding discussion of its properties.

Economy in Use

The use of IDAHO WHITE PINE in general construction, in the factory, or in the shop means lower costs, particularly labor costs. This economy is the result of certain very tangible factors. IDAHO WHITE PINE is light in weight, does not split easily and takes nails and other fastenings in excellent manner. It is easily worked with both hand and machine tools, takes paint well and is glued without difficulty. Waste which normally develops in any woodworking operation is at a minimum when IDAHO WHITE PINE is used, due largely to its natural properties and its condition of seasoning, milling and close grading.

As a preferred material for foundry patterns and for matches, IDAHO WHITE PINE has convincingly proven its serviceability for uses where the requirements are exacting.

Installations of Idaho White Pine and the Requirements of Specific Uses

General Remarks

Individuals vary in their methods of selecting building materials just as much as when they choose articles for personal use. To one, appearance is everything; to another, cost is considered above all else; to a third, both of these points may mean nothing, yet, some chance remark made by an aggressive salesman, catching the

individual's fancy, decides the matter. However, lumber and woodwork are most likely to give lasting satisfaction if their selection is based upon the actual utility of a wood for a specific use. This means that consideration should be given to all the requirements of a particular use and the relative importance of each definitely recognized. Confusion only too often arises from comparing different kinds of lumber upon the basis of properties which are not primary requisites for that use.

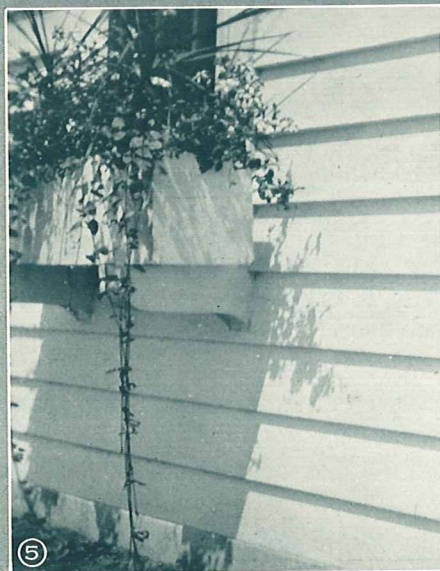
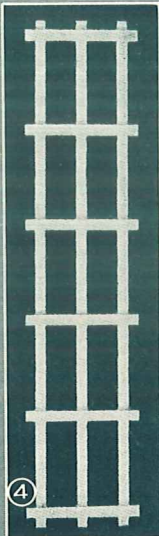
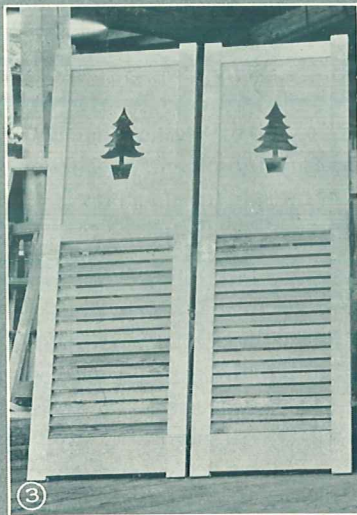
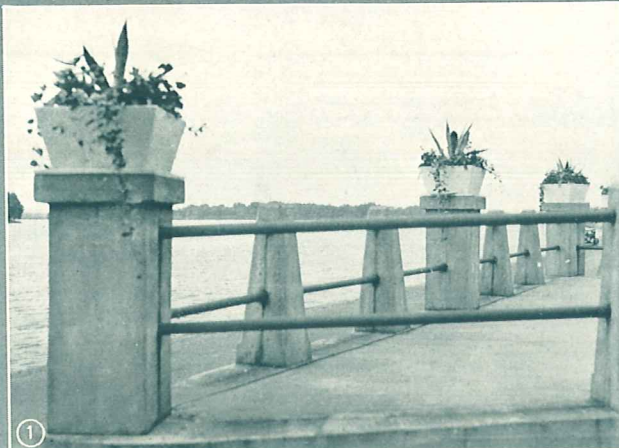
The elements of cost and availability cannot be overlooked. This is especially true of low cost materials, or materials for the less important uses where the difference in values of the different woods may not be great and the volume required is sufficiently large to warrant close attention to the total cost involved. In figuring costs, several points should be considered, namely,—the initial cost, the cost of the material in place, and the ultimate cost based on annual upkeep. Where the uses call for definite values in a wood such as with finish, sash, or doors, a slightly greater cost for the material may be inconsequential compared to the annoyances that sometimes develop through choice of cheaper but also poorer materials. Again, in some localities one wood may be more readily available than another, and this fact is bound to be considered by the careful buyer. Generally speaking, though, it is preferable to determine what constitutes utility for a given purpose, as, for example, to determine what is expected from sash, siding, sub-flooring and like items. The properties of wood that have a bearing on the utility of a material can be ascertained, and the wood that offers the most value on this basis can then safely be selected.



Boys like to work with Idaho (genuine) White Pine; that is why it is so popular at schools as manual training lumber.

Representative Installations

Each example illustrated on the pages that follow shows actual application of Idaho White Pine to some use. The installations are typical of the kind in which this wood is giving satisfactory service.



Lawn and Garden Furniture

Trellises, lattice, pergolas, fences, rose arbors and other garden furniture, have much to do with the beauty and charm of the garden and grounds surrounding a building. Consequently appearance is the first requisite of this use. Careful planning, good design, and use of a suitable wood are all essential.

To assure the desired sharpness and beauty of line as well as the best in workmanship, the wood must be easily shaped, cut and fitted. Because of its exposure to the elements, the wood utilized for such purposes must possess the natural ability to stay in place, resist weathering—particularly grain raising, and take and retain paints and other finishes in excellent manner. Any wood, where the parts are in contact with the soil, should of course be given a preservative treatment.

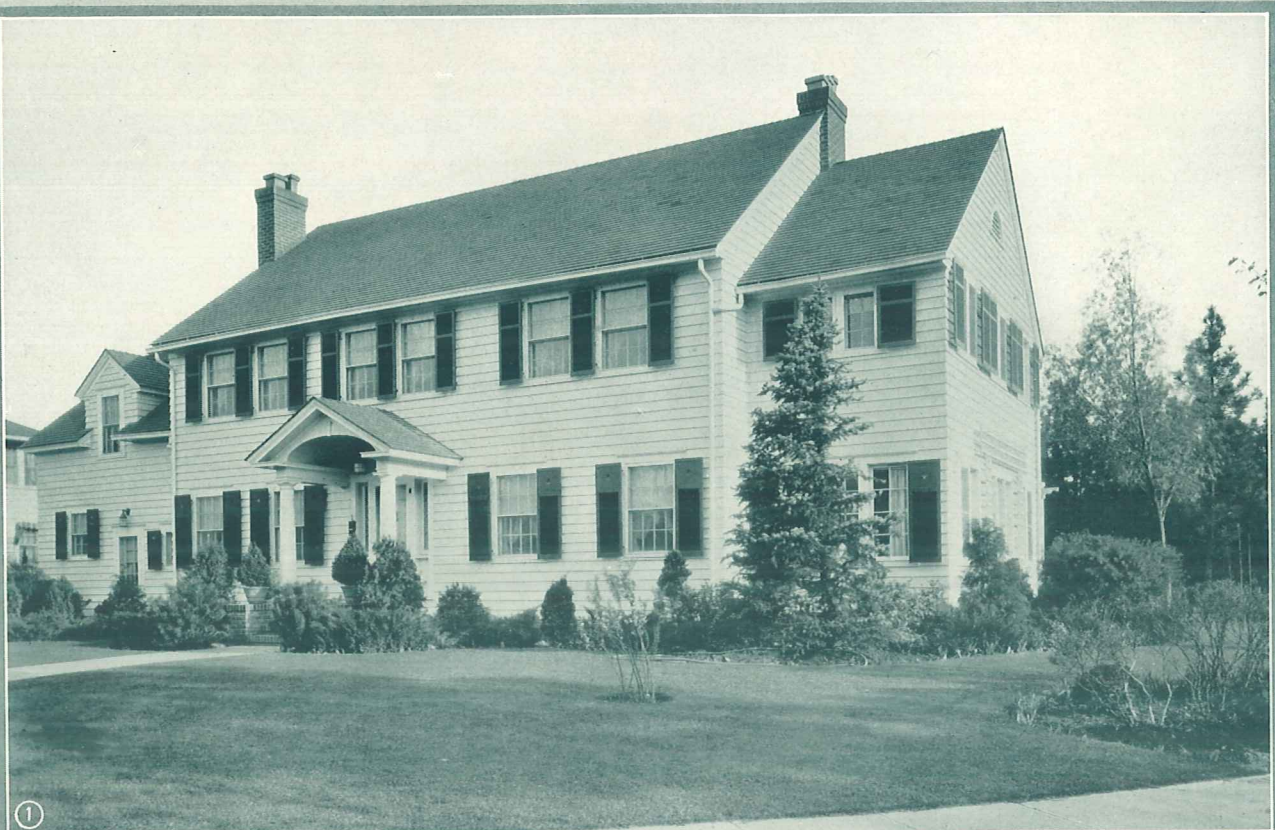
The requirements for this use are:

1. Ease of working.
2. Ability to stay in place.
3. Resistance to weathering.
4. Take and hold paint well.
5. Nail easily without splitting.

Screens Screen sash and screen doors must present a good appearance but primarily these should provide a tight fitting covering for the window and door opening, and be easily operated. Likewise, with the changing seasons, be put in place and removed with a minimum of effort. A wood for screen construction should be selected with the following properties in mind:

1. Light weight.
2. Ability to stay in place.
3. Workability.
4. Ease of painting.
5. Resistance to weathering, particularly grain raising.
6. Take screws without splitting, and without tearing fibers.

Idaho White Pine is especially well adapted for (1) Flower Boxes, (2) Rose Arbors, (3) Outside Blinds, (4) Trellises, and (5) Window Boxes. It is used for these purposes in many parts of the country.



①



②



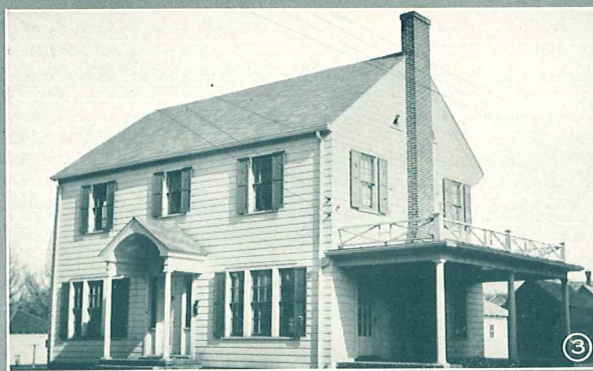
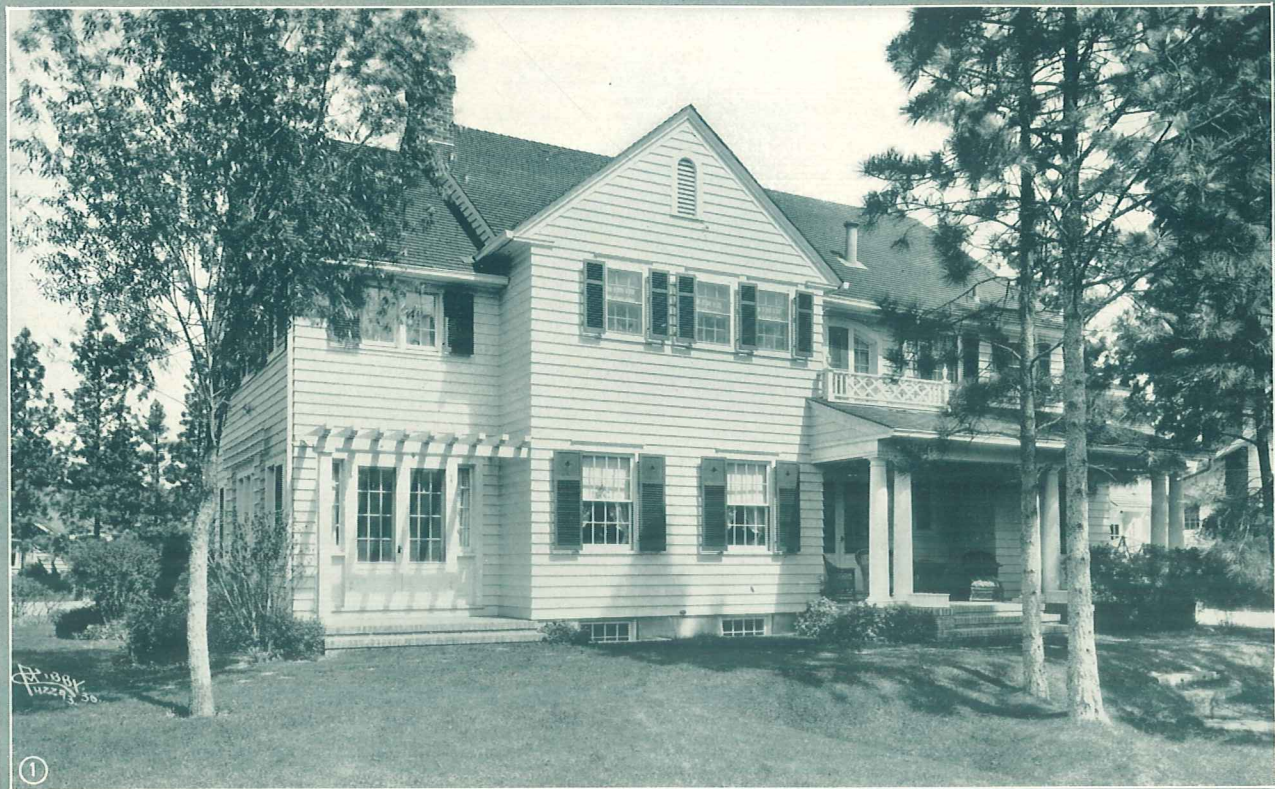
③

Bevel Siding Siding should serve two purposes. Protection against the weather is obviously an important consideration, but satisfactory appearance is also essential, since the looks of any structure is largely influenced by its siding. Both of these requirements are of course affected by the type of siding used and by the workmanship employed in its application. Nevertheless, the wood itself is a very real factor in obtaining both adequate weather protection and good appearance.

The siding should be an efficient insulator and must naturally resist weathering, particularly grain raising. It should have the ability to stay in place under actual service conditions, to take and hold paint, to cut and fit easily, and to take nails without splitting. The properties desirable in a siding wood, in order of their importance are, therefore:

1. Resistance to weathering.
2. Slight shrinkage.
3. Freedom from nail splitting.
4. Ease of painting.
5. Ease of working.
6. Low density.
7. Absence of excessive pitch, gum and objectionable coloring matter.

Tight joints, closely-fitting corners and Idaho White Pine Bevel Siding combine to improve the appearance and serviceability of residence exteriors. (1) Spokane, Wash.; (2) Chelsea, Mich.; (3) Owosso, Mich., installations.

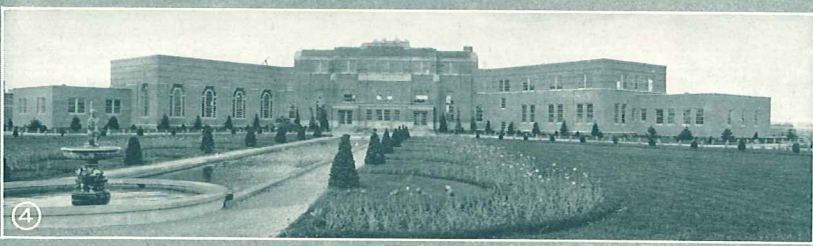
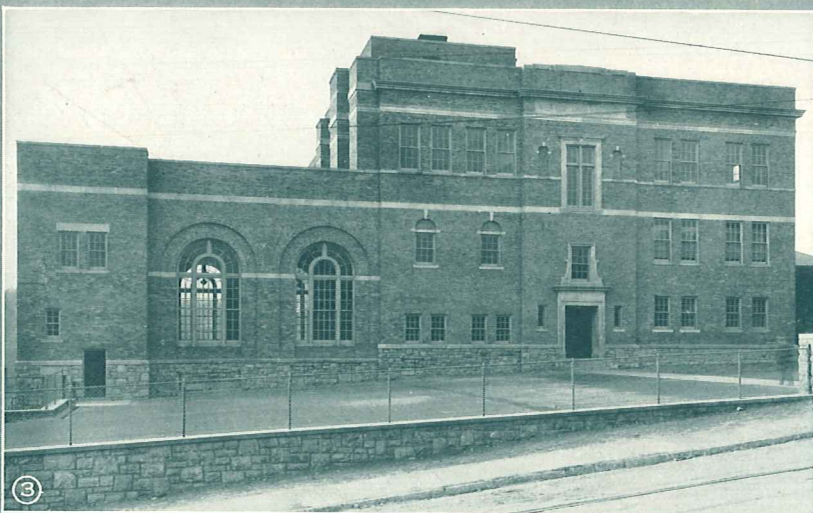


Exterior Finish Exterior trim, cornices, window and door casings, moldings, shutters, porch material and similar items serve largely to improve the appearance of the exterior design of a building. Factors which affect the appearance of a material naturally should be given the most consideration. Certain forms of exterior finish are also expected to add to the weather resistance of the building. Precise mill-work can be made from a wood which is of soft uniform texture. Its original shape will be retained and joints will remain tight if the wood also possesses low shrinkage values. The expanding and contracting tendencies of wood will affect its resistance to weathering under various conditions of exposure. If the wood also possesses an ability to readily take and retain paint there is a better chance of its giving good service over a long period of years than if the wood provides a poor paint base. Freedom from splitting is another important factor when considering a wood for outside use.

Briefly, the requirements of a wood for exterior finish are:

1. Ease of working.
2. Ability to stay in place.
3. Absence of grain raising.
4. Good painting characteristics.
5. Freedom from excessive pitch, natural oils or acids.
6. Freedom from nail splitting.

Porch columns, outside blinds, cornices, bevel siding and porch work made of Idaho White Pine are illustrated by these installations in (1) Spokane, Wash.; (2) Bayport, Minn.; (3) Owosso, Mich.



Window and Door Frames

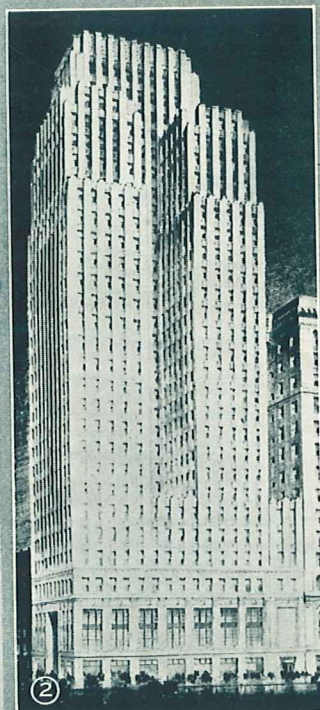
While the construction of the framing around a window and door opening is very important for the effective service of the frames, as well as the sash and doors, a window frame is too important a part to be slighted. If properly selected and installed, the joints will be so closely fitted as to exclude the entrance of air, dust, and water. A good wood, a satisfactory paint job, and good workmanship are essential to this end. The character of the painting also affects the appearance of the frame, and aids its resistance to weathering. For these reasons proper design is not only essential but a wood should be used which is readily workable, and of soft, even and absorbent texture. The ease with which the frame parts are nailed together influences the cost of installation and the effectiveness of the work. A wood that shows no tendency to split is preferred. Sufficient hardness is necessary, especially for the pulley stiles of a window frame. As in the case of a door, a wood that mortises easily, permitting quick fitting of hardware, has many advantages.

A wood that ranks high in the following properties will ordinarily give good service when used in window and door frames:

1. Ease of working.
2. Low shrinkage values.
3. Ability to take and hold nails and screws.
4. Ease of painting and finishing.
5. Resistance to weathering.
6. Strength and sufficient hardness.

(1) St. Paul, Minn., Minnesota Bldg., Chas. A. Hausler, Arch.; (2) Minneapolis, Minn., Asbury Nurses Home, Fairview Hospital, Long & Thorshov, Inc.; (3) Kansas City, Mo., West Side Junior High School, Chas. A. Smith, Arch.; (4) Fairfax, Kans., Administration Building, Fairfax Airport, Chas. A. Smith, Arch.

Idaho White Pine window frames were used in most of the buildings shown under "Window Sash."



Window Sash Window sash for efficient service must operate silently and easily, and give continued protection against the elements. These two points are of primary importance in determining the utility of a wood for sash.

The first is assured through the choice of a material that is light, yet strong for its weight. A light weight wood permits the use of lighter sash balances. It also requires less effort to operate the window and is less likely to be damaged from hard usage, as when a window is slammed shut. Tight putty joints between the wood and the glass are essential. A light weight wood has greater resiliency and serves as a bumper for both the frame and the glass. If a window sticks or rattles after it has been carefully fitted, it indicates that there has been a change in the dimensions of the sash. The possibility of this occurring and the need for high insulating values in a wood are apparent, if one considers the differences of temperature and atmospheric moisture that often occur (as in winter or during rains) on the opposite sides of a single thickness of sash material. A wood of low shrinkage values changes less in its dimensions under varying atmospheric conditions, and when made into sash it can be snugly fitted, knowing that the window will always operate easily afterwards.

Protection against the elements is influenced in sash to a considerable extent by the design. Good designs have been pretty well established by past experience, but without ac-

(1) Chicago, Ill., Merchandise Mart, Graham, Anderson, Probst & White, Archts.; (2) St. Paul, Minn., First National Bank Bldg., Graham, Anderson, Probst & White, Archts.; (3) Chicago, Ill., Chicago Methodist Temple Bldg., Holabird & Root, Archts.



COMMERCIAL



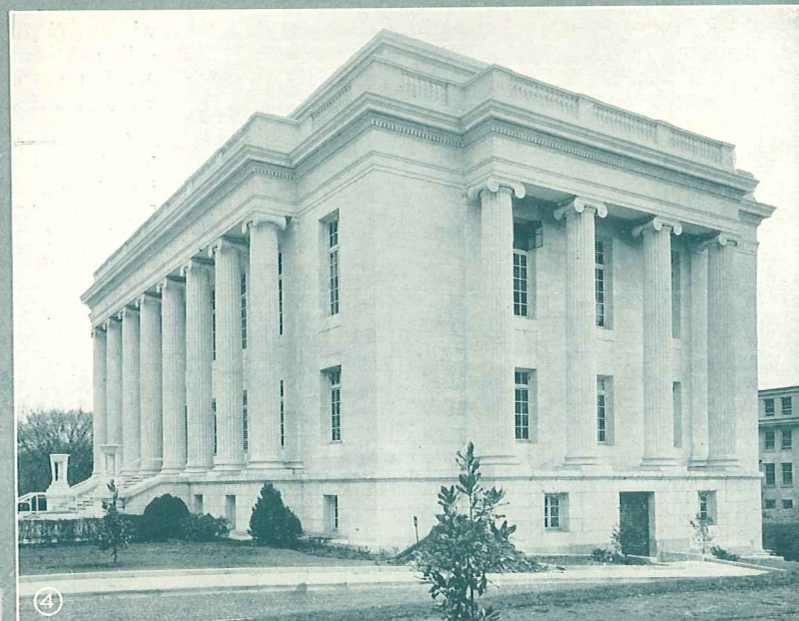
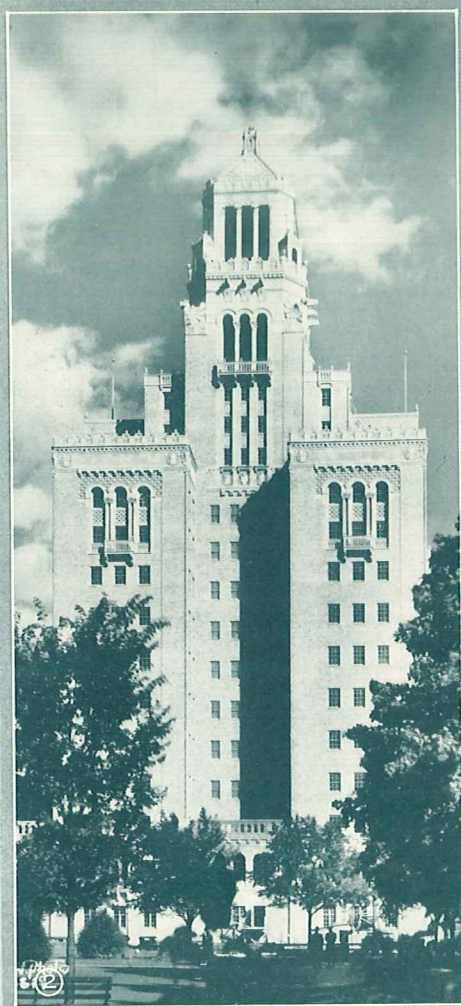
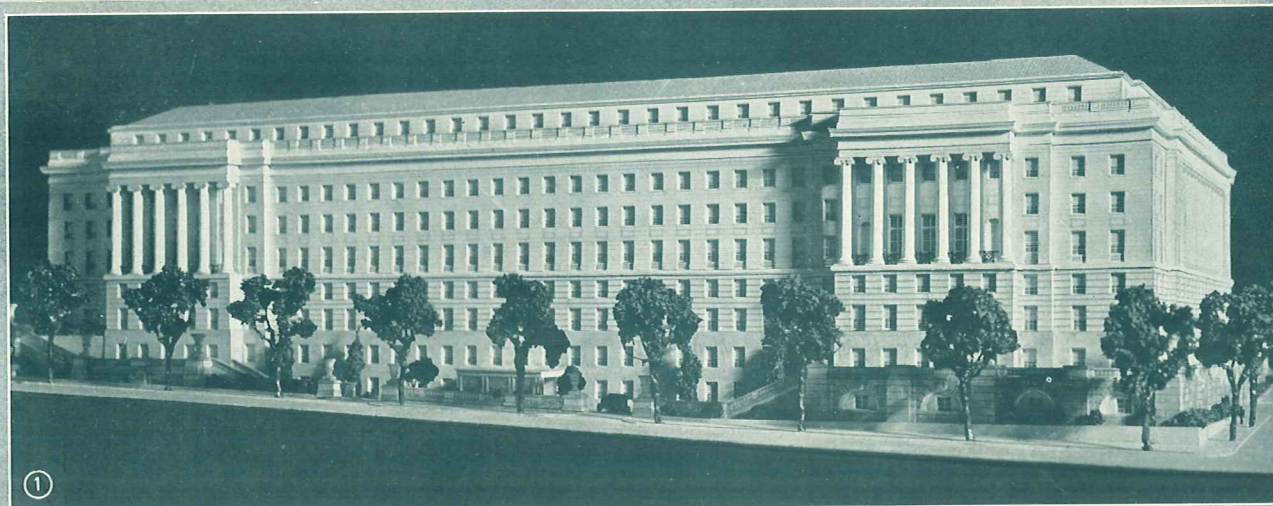
curate workmanship both in machining the sash parts and in their assembly, much of the value of good design is lost. Experience has also shown that accurate workmanship can best be obtained by using a soft, evenly grained and textured wood, which can be cut at any angle or to any pattern easily. Use of such a wood also reduces the carpentry time necessary for attaching hardware and fitting sash, without lessening the quality of the work done. Finely molded cross bars, in sash with small panes, demand a wood that shows no tendency to split or sliver, either during manufacture or while in service. A soft textured wood is preferable also when the sash is to be weather stripped.

Appearance, too, is a requisite, since the looks of both the interior and exterior of any structure is greatly influenced by its windows. Good appearance is conditioned upon the performance of the wood during the machining of the molded portions of the sash, and upon painting. It has been pointed out before that soft texture and easy working qualities in a wood play an important part in producing accurately cut sash. Light color, absence of hard or cross grain, absence of natural oils, acids and resins, slight shrinkage, and an absorbent paint gripping texture, are factors that influence the effectiveness of painting.

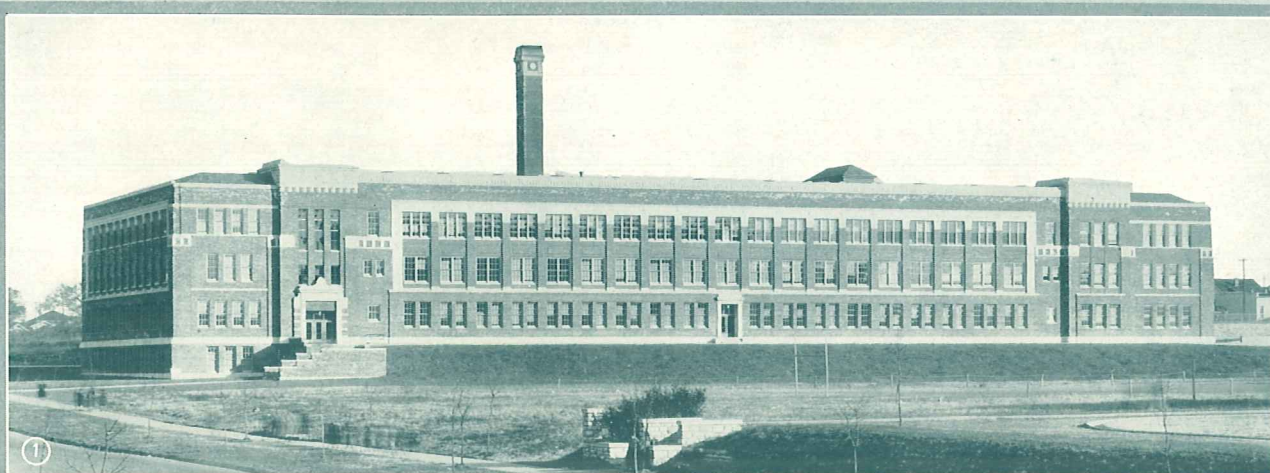
The essential properties of a sash wood, in their relative order of importance are:

1. Ease of working.
2. Ability to stay in place (not shrink and swell).
3. Light weight.
4. Resistance to weathering.
5. Freedom from splitting and slivering.
6. Ease of painting.
7. Light color.

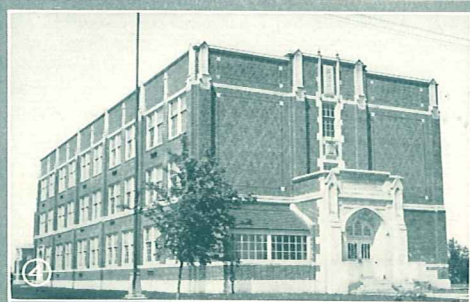
WINDOW SASH—(1) Philadelphia, Pa., Provident Mutual Life Insurance Co. Bldg., Cram & Ferguson, Archts.; (2) Louisville, Ky., First National Bank and Kentucky Title Trust Company Bldg., Carl A. Ziegler, Arch.



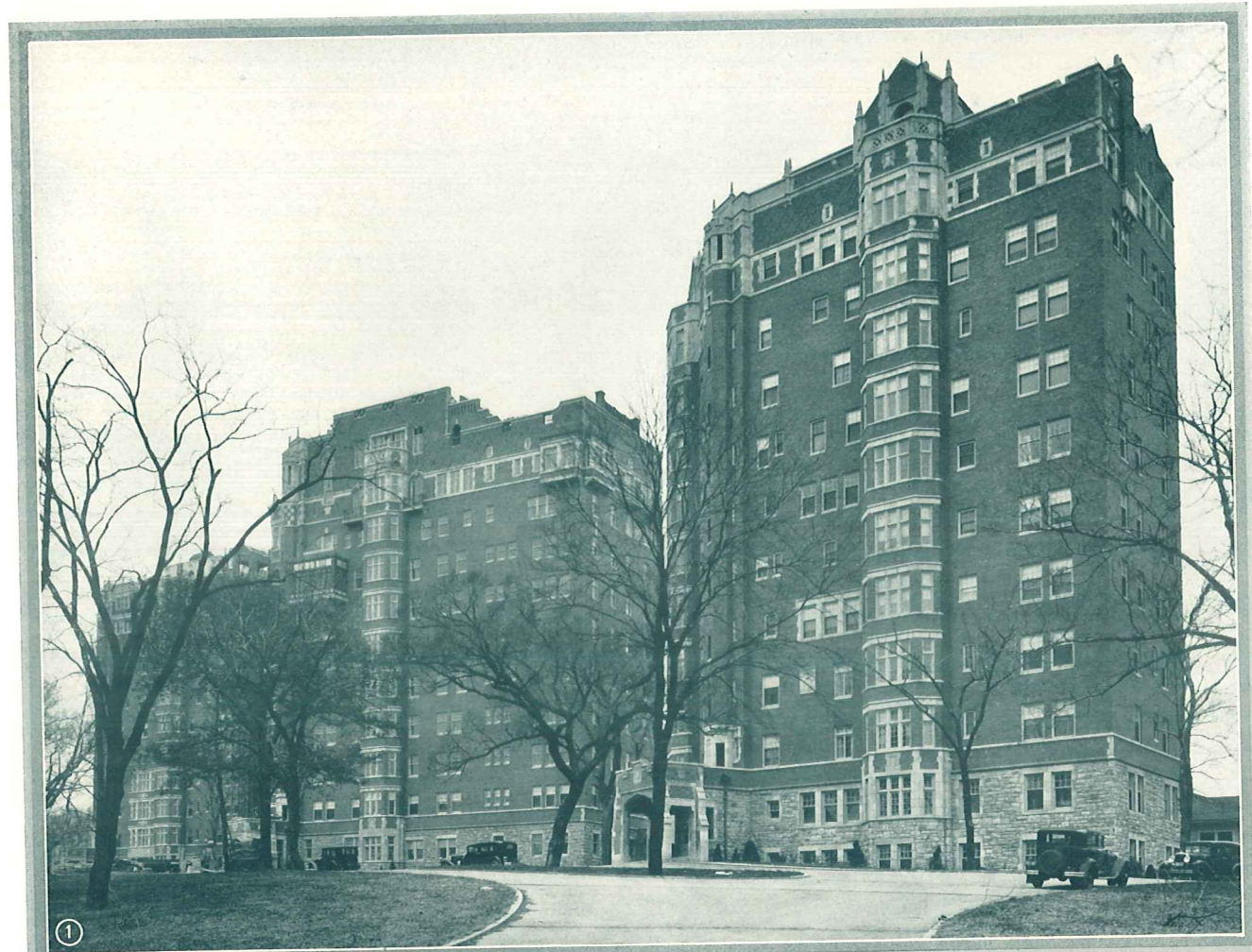
WINDOW SASH—(1) Washington, D. C., U. S. House of Representatives Office Bldg., Allied Architects, Inc., Archts.; (2) Rochester, Minn., Mayo Clinic, Ellerbe & Co., Archts. & Engrs.; (3) Portland, Ore., U. S. Veterans Hospital; (4) Washington, D. C., Women's World War Memorial Bldg., Trowbridge & Livingston, Archts.



SCHOOLS



WINDOW SASH—(1) Kansas City, Mo., Central Junior High School; (2) Kansas City, Mo., Paseo High School; (3) Kansas City, Mo., Westport High School; (4) Minneapolis, Minn., Henry Patrick School; (5) Kansas City, Mo., North East Junior High School.



WINDOW SASH—(1) Kansas City, Mo., The Walnuts Apartments; (2) Bayport, Minn., White Pine Inn; (3) Fairfax, Kans., Administration Building, Fairfax Airport.

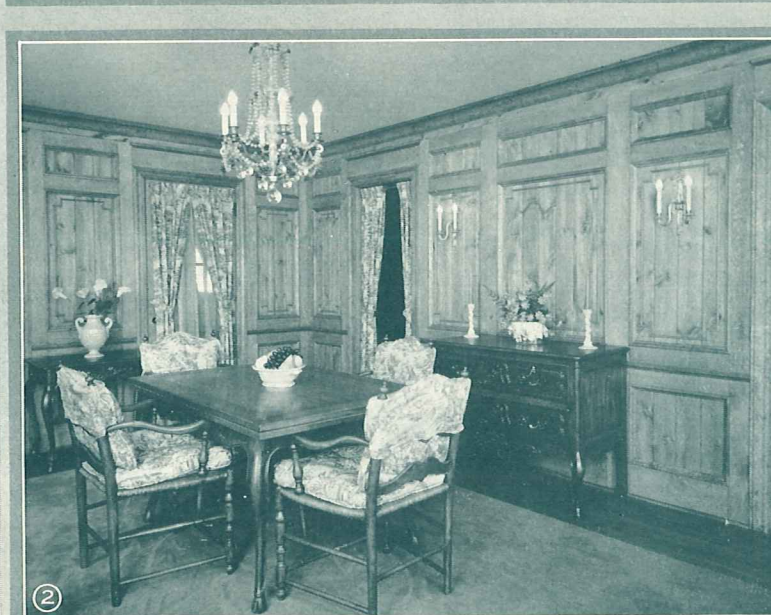
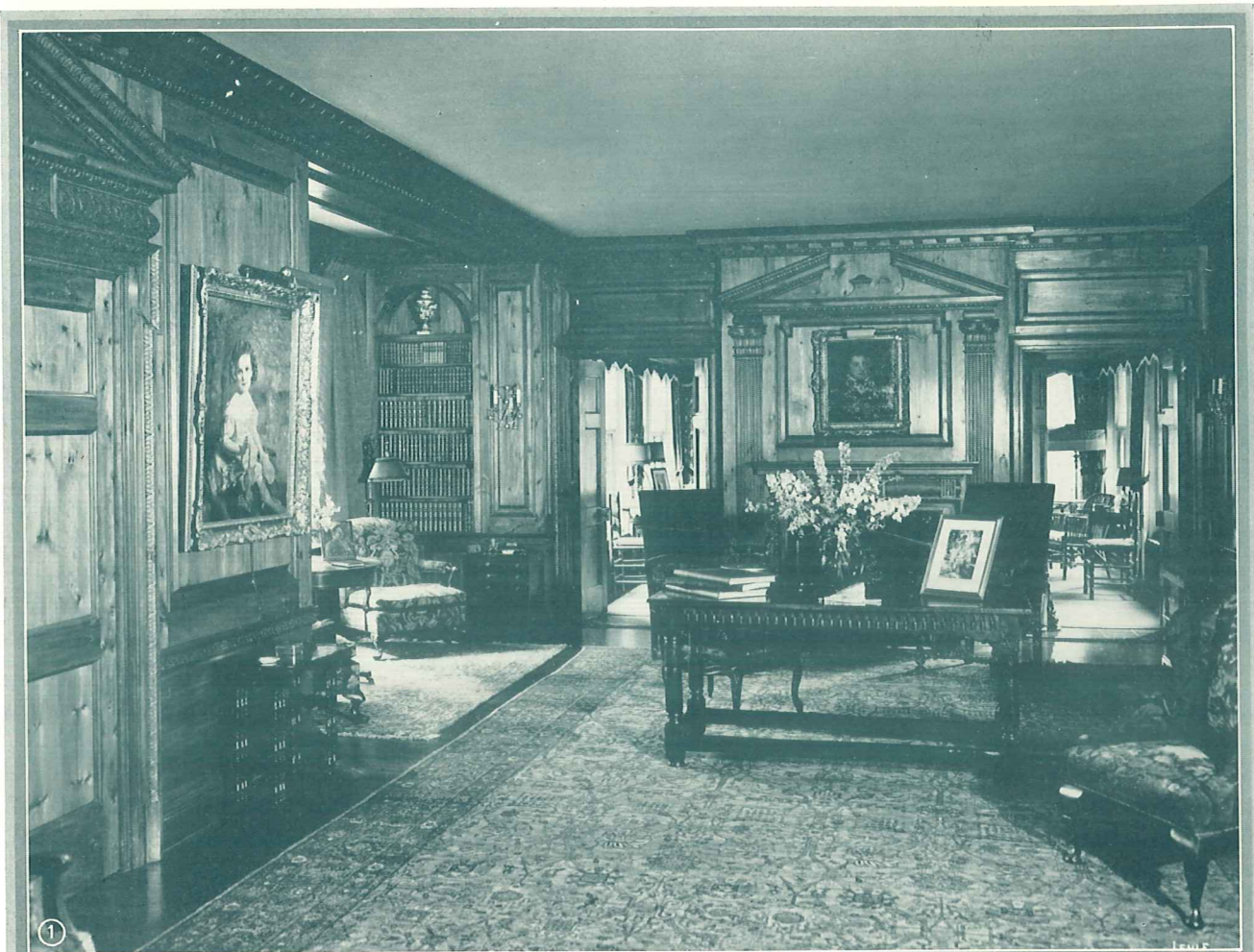


Wall Paneling and Wainscots

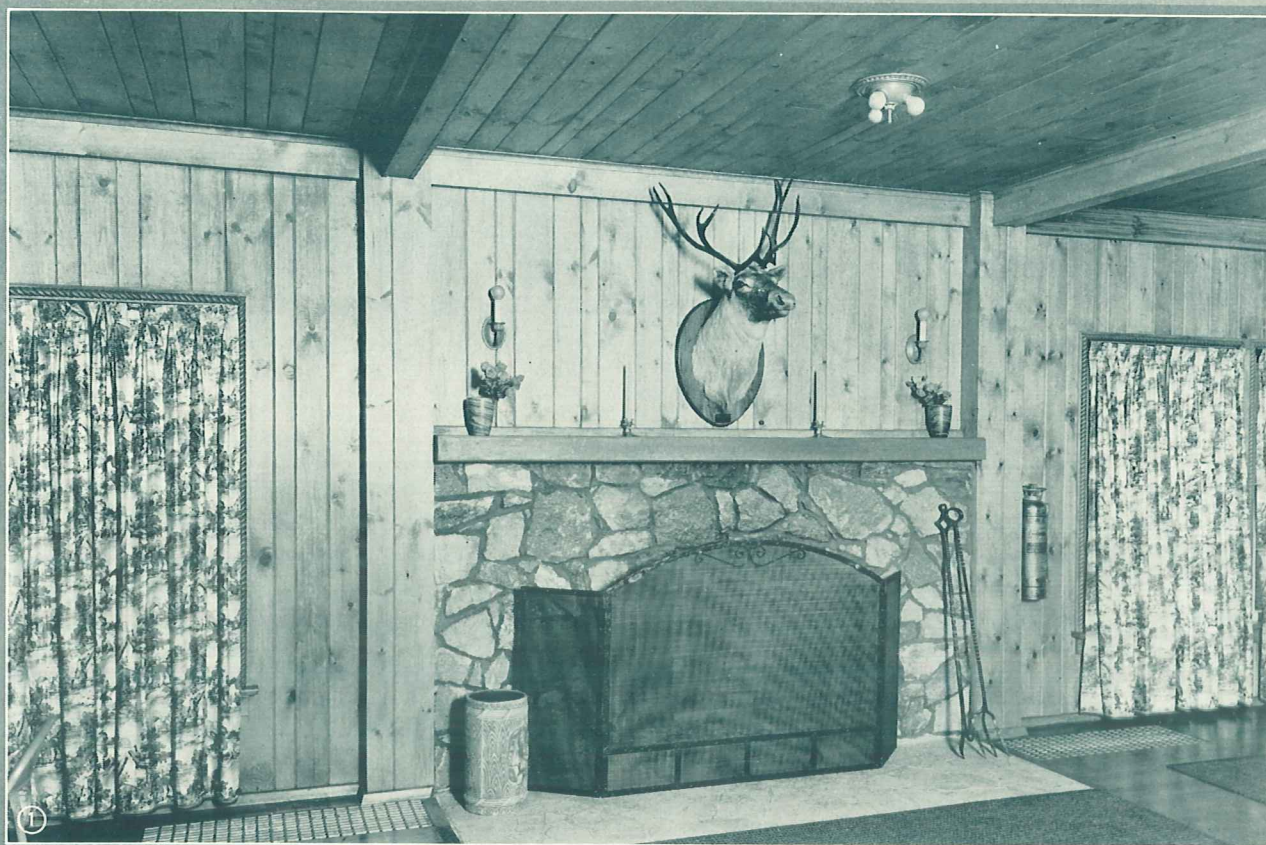
Wood wall paneling is intended to provide both background and decoration for the room. The design in all cases has much to do with the effect produced, but as is true with all interior finish, the natural properties and characteristics of the wood are a very real element in the actual results secured. Excellence in line and contour, smoothness of surface and the best in workmanship demand a wood that is readily shaped, worked and molded. Assurance that both shape and dimension will remain unchanged under service conditions calls for woods of low shrinkage (ability to stay in place). Ease of finishing with stains, enamels or other finishing treatments is obviously essential and in fine work of this kind the wood must nail easily without splitting.

Such requirements apply to both clear and knotty paneling. In the latter use, selection of the wood takes on additional importance. Tastes vary widely as to the type, size, and distribution of the knots, also the amount of grain, and the wood which can meet the entire range of individual choice is of course preferred.

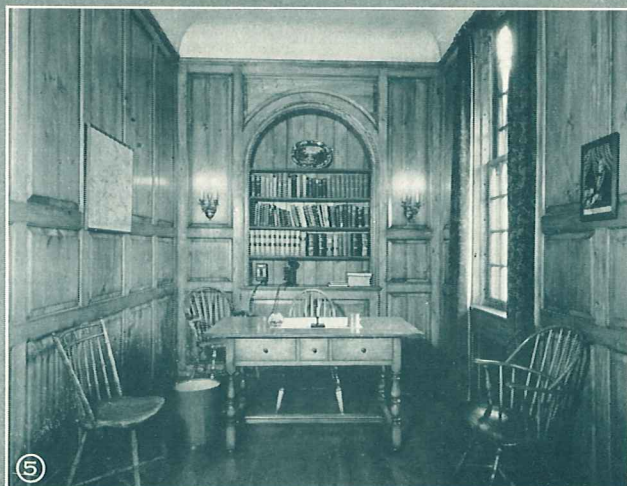
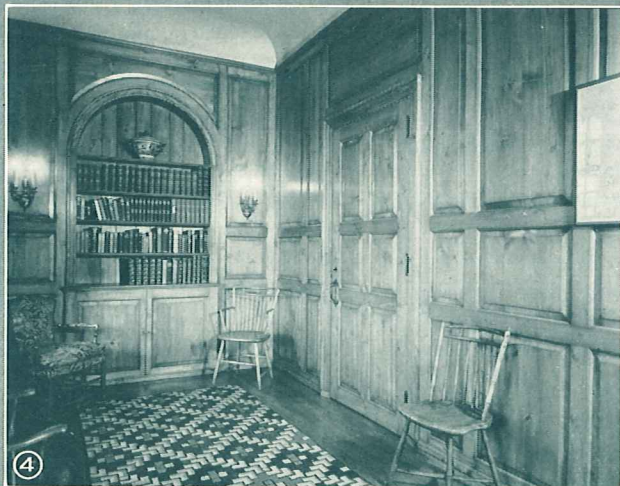
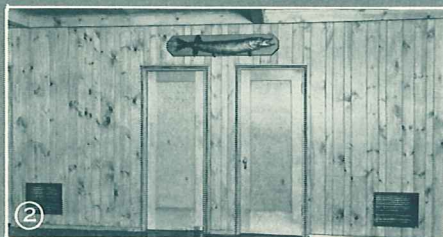
Germantown, Pa., Memorial Church of the Good Shepherd, Carl A. Ziegler, Arch. Idaho White Pine woodwork.



KNOTTY IDAHO (GENUINE) WHITE PINE PANELING installations in (1) Lake Forest, Ill., (2) Minneapolis, Minn., and (3) East Hampton, New York.



KNOTTY PINE PANELING



KNOTTY IDAHO (GENUINE) WHITE PINE PANELING in (1 and 2) Lounge, McGregor Golf Course Club House, Dayton, Ohio; (3) Clear Paneling in Lobby, White Pine Inn, Bayport, Minn.; (4 and 5) Business office in Minneapolis, Minn.



For finely carved woodwork and moldings, Idaho (genuine) White Pine is unexcelled. Because of its light color and absorbent properties, it is especially suitable for light enameled woodwork.

Cabinet Work Cabinet work, as distinguished from mill-work, involves a certain amount of hand joinery. It includes the manufacture of "permanent furniture," or built-ins, such as book cases, dressing tables, linen cases, kitchen, medicine and telephone cabinets, cupboards, china closets, breakfast nooks, ironing boards, broom closets, laundry chutes, flour and sugar bins, and numerous other articles of this type. Products of this kind must present a satisfactory appearance and all moving parts must operate easily and quietly.

A soft, uniformly textured wood is peculiarly adapted to cabinet work. It is easily shaped, thus permitting excellent workmanship, smooth surfaces, and beauty in line and contour. A wood for this purpose must not change dimensions or shape under service conditions. It should readily take enamels, stains and other finishes. It is important also for a wood to take nails, screws and other fastenings without splitting, and glue up satisfactorily. Light weight is likewise desirable.

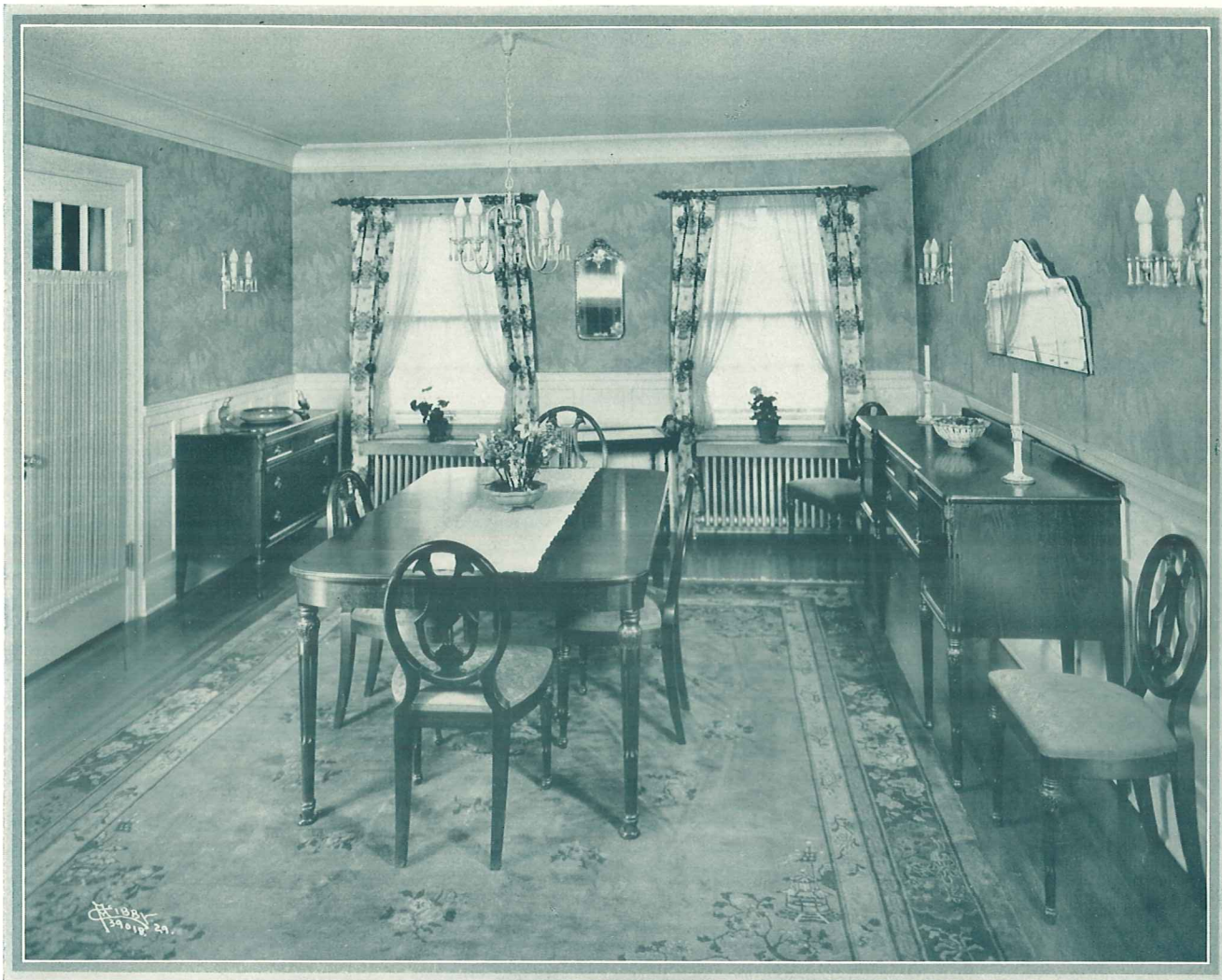
Thus a wood for cabinet work should possess the following:

1. Ease of working.
2. Ability to stay in place.
3. Ability to take enamels, stains and other finishes.
4. Ease of nailing without splitting.
5. Ease of gluing.
6. Light weight.

Shelving There is of course a wide range in the types and kinds of shelving. Such variation, however, is met largely by differences in design, workmanship, and size and grade of the material. With few exceptions the wood properties required are common to all. A wood to be suitable for shelving purposes must work easily, be light yet reasonably strong, come well manufactured and seasoned, take nails and screws without splitting, glue well, and finish in excellent manner.

The wood properties governing the selection of wood for shelving are:

1. Ease of working.
2. Light weight.
3. Well manufactured and seasoned.
4. Receive nails and screws easily without splitting.
5. Take paints, stains and enamels readily.



Idaho White Pine interior moldings, wainscots and other trim enhance the beauty of any room.

Interior Finish and Moldings

The first requirement of moldings, window and door casings, mantels, stairs, base boards and all other forms of interior trim, is that a pleasing effect upon the eye should be produced. This is the primary purpose of interior finish, not only at the time of installation but continually through long years of service. Design and workmanship are necessary in no small measure to bring this about, but the natural properties and characteristics of the wood selected for this use are of the utmost importance.

The character and architectural effects so essential for interior finishing can be assured by the use of a soft, uniform-textured wood that is easily worked and thus permits excellent workmanship, smooth surfaces, sharp lines and contours. Naturally the wood must not change shape or dimensions after being placed in service. It must readily take and retain stains, enamel and all other types of finishing and for natural finishes possess character of grain to produce satisfactory effects.

Selection of a wood for interior finish should be based upon the following:

1. Well seasoned stock.
2. Workability.

3. Low shrinkage.
4. Ease of painting and finishing.
5. Freedom from excessive pitch, gums and coloring matter.
6. Sufficient hardness.
7. Resistance to splitting.
8. Pleasing appearance of grain.

Millwork Millwork, in contrast to cabinetwork, is primarily a machine-made product. It embraces a wide field of factory-made products which includes all types of window and door frames, doors, sash, shutters, screens, porch columns and other porch material, paneling, mantels, stair work, moldings, trim and like items. The utility in such products involves first of all the factor of pleasing appearance. Weather protection and satisfactory operation of working parts are also of great importance in many of these items.

With such requirements, the wood utilized for this purpose must above all things be easily worked, shaped and fitted. In actual service it must retain its original form and dimensions. The wood must obviously take and hold paints, enamels and stains in an excellent manner. It must also be easily nailed or otherwise fastened, and resist splitting. Other qualities required in certain millwork products are resistance to grain

raising, ease of gluing, light weight, reasonable hardness and freedom from excessive pitch and gums. A light colored wood is advantageous especially for enameled work.

Selection of a suitable wood for millwork use involves consideration of the following factors—relative importance being indicated by the order listed:

1. Workability.
2. Ability to stay in place.
3. Ease of painting and finishing.
4. Ability to take nails and other fastenings without splitting.
5. Light color.
6. Resistance to weathering.
7. Ease of gluing.
8. Light weight.
9. Freedom from excessive pitch, gums and coloring matter.
10. Hardness.

Sheathing Sheathing is of course a covering material and as such its primary purpose is to contribute towards making the structure weather proof. It also provides a smooth surface on which siding may be applied, and adds stiffness to the frame of the building. The first consideration is, therefore, to assure a tight, well fitted covering, that will not open up because of shrinkage or other defects, and one that will be efficient as an insulator. A uniform flat base for the siding and reasonable strength are also required.

Choice of sheathing lumber should, therefore, be made with the following in mind:

1. Low density.
2. Slight shrinkage.
3. Knots ordinarily firm.
4. Good seasoning and manufacture.
5. Nailing without splitting.
6. Light weight but strong.
7. Ease of working.

Subflooring Subflooring should, first of all, provide a suitable base for the flooring, which means that it must have a smooth, uniform surface, and must be easily laid. It should also serve as an insulator against the transmission of heat, cold and sound. Finally, it should lend additional stiffness to the frame of the structure.

The lumber should therefore be uniformly and well manufactured after seasoning, have low shrinkage, possess good strength in bending for its weight, take nails easily without splitting and be of low density. From the standpoint of low cost, the lumber should also be easily worked.

Subflooring should therefore be selected with the following requirements as a guide, emphasis being in the order indicated:

1. Well manufactured *after* seasoning.
2. Low shrinkage.
3. Easily nailed without splitting.
4. Light but strong for weight.
5. Good insulator.
6. Easily worked.

Roof Boards The primary purpose of the roof boards is to supply the necessary foundation for the roofing. It should also contribute to the insulation and stiffness of the structure. Lumber utilized for this purpose should be

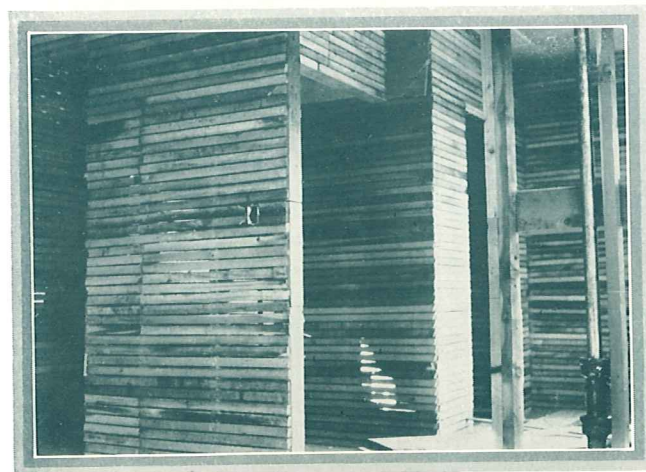
well milled after seasoning, work easily, take nails without splitting and be strong for its weight. Selection should be based on the following considerations:

1. Uniform dimensions.
2. Workability.
3. Ability to take nails without splitting.
4. Sufficiently light to handle easily, but strong.
5. Good insulating properties.

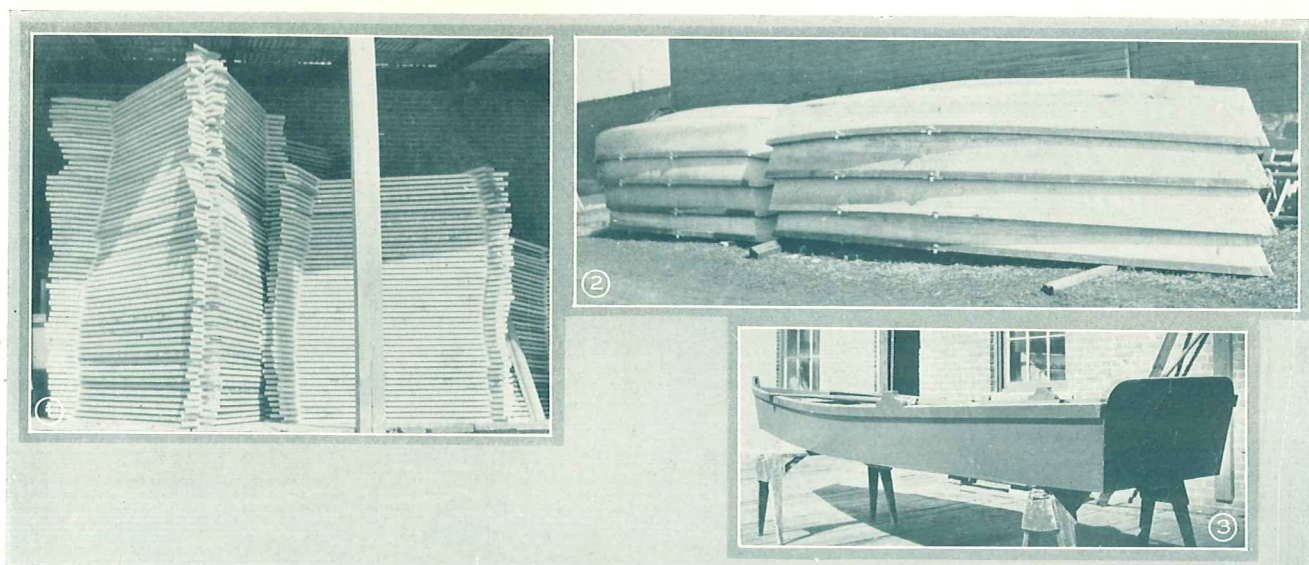
Concrete Forms Economy in both labor and materials require the lightest possible construction in concrete forms consistent with the necessary strength and stiffness to support the incident loads without sagging or bulging. Good design is therefore essential to make possible a minimum of material and use of the lightest possible wood. Woods of low shrinkage values withstand repeated soaking and drying out with less wastage of material. Particularly in the more precise work where a smooth concrete surface is desired, well manufactured stock is a requisite. Ease of nailing and absence of splitting are obviously factors in economical construction, considering the wastage of material that may occur from repeated use. For heavy concrete construction strength properties of the form material are obviously the major consideration. In the lighter and usually more exacting work, light weight, good manufacture and excellent nailing and working qualities are of the greatest importance.

Lath Lath should be easily applied and should cause no cracking, ridging, or discoloration of the plaster. This means that the wood must be light in weight, easily cut and fitted and nailed readily without splitting. It should be straight grained, low in shrinkage and precisely manufactured. Light color and freedom from excessive pitch are also important. The kind of wood lath to use should be determined upon the basis of:

1. Workability.
2. Ease of nailing without splitting.
3. Low shrinkage.
4. Precise manufacture.
5. Absence of excessive pitch.
6. Light color.
7. Light weight.



Idaho White Pine lath speeds up the lather's work and provides a good bonding surface for plaster.



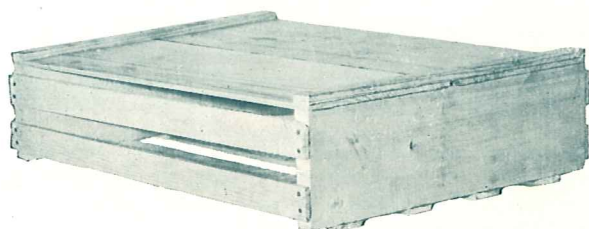
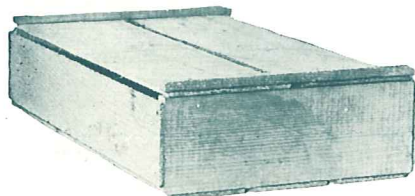
(1) Faribault, Minn., stacks of Idaho White Pine fence pickets; (2) Milford, Mich., and (3) Faribault, Minn., Idaho White Pine rowboats. White Pine is preferred for this use because of its light weight, easy working and good painting qualities.

Wood Novelties and Specialty Cuttings

Toys of all sorts, including embossed blocks, animals, wagons, boats, and the like are usually manufactured in small sizes and are painted, enameled, or varnished. Specialty cuttings like fence pickets, window shade slats and rollers, drawing boards, pastry boards, drain boards, turned table legs, breakfast tables and other softwood furniture, silk reels, organ pipes, and numerous other industrial articles are one piece or built-up cuttings of clear lumber. In the manufacture of all wood novelties and specialty cuttings use of a soft and even textured wood which can be cut with little waste is very important. Because of the thinness and small size of many articles, and the fact that they are nailed or glued together, the wood selected for this work should show no tendency to split, but should take nails easily, and glue well. Lightness, absence of resin, and non-slivering qualities are other essential factors. For most articles in this classification good paint-holding properties are important. Woods of slight shrinkage have many advantages over those which expand and contract excessively.

The serviceability then of a wood for wood novelties and specialty cuttings will depend upon:

1. Ease of working.
2. Paint-holding properties.
3. Freedom from splitting and slivering.
4. Low shrinkage values.
5. Ease of gluing and nailing.
6. Light weight.

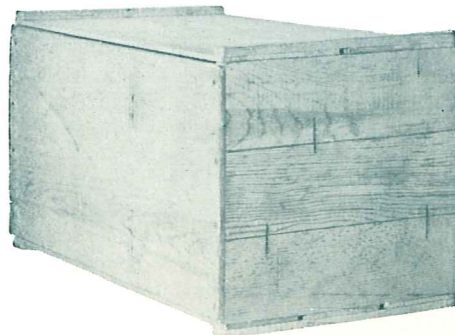


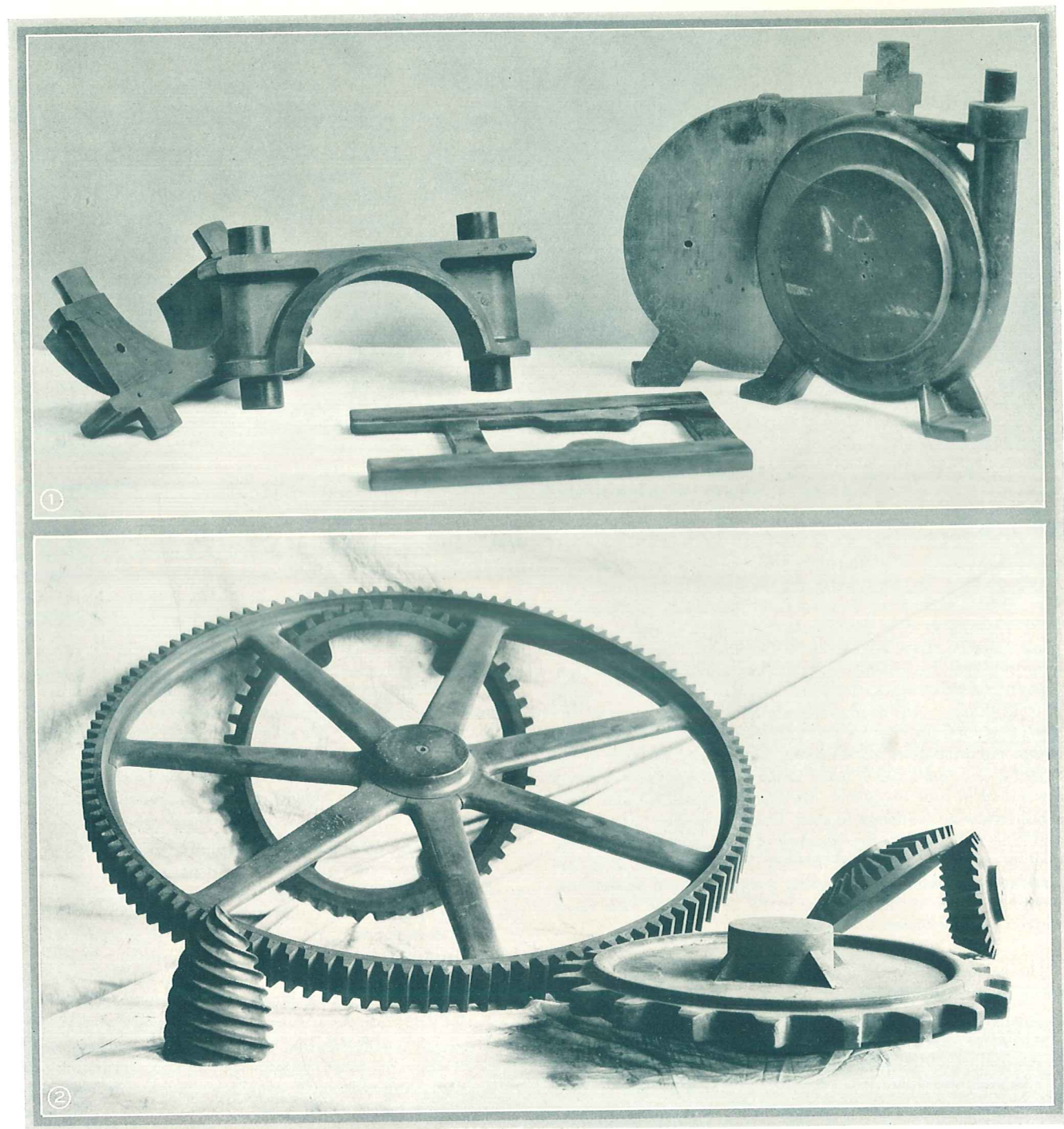
Boxes and Crates A satisfactory shipping container must afford the necessary protection to the product for which it is designed, at a relatively low cost and be as light in weight as possible in order to assure minimum transportation charges.

Obviously a wood that can be obtained abundantly and at a reasonable cost is essential. In addition, a wood must possess certain definite properties if it is to be suitable for box construction. It must be light but reasonably strong, particularly as to shock resistance. The wood must be easily worked, comparatively free from warping, nail easily, yet resist splitting, be light in color and free from objectionable taste or odor. An excellent box material should, therefore, meet the following requirements:

1. Available in quantity at reasonable price.
2. Strong for its weight, and resilient.
3. Nail easily without splitting.
4. Easily manufactured.
5. Stay in place.
6. Light in color.
7. Mill smoothly.
8. Free from objectionable taste and odor.

Crating material should generally meet the same requirements although strength should be given still more consideration.





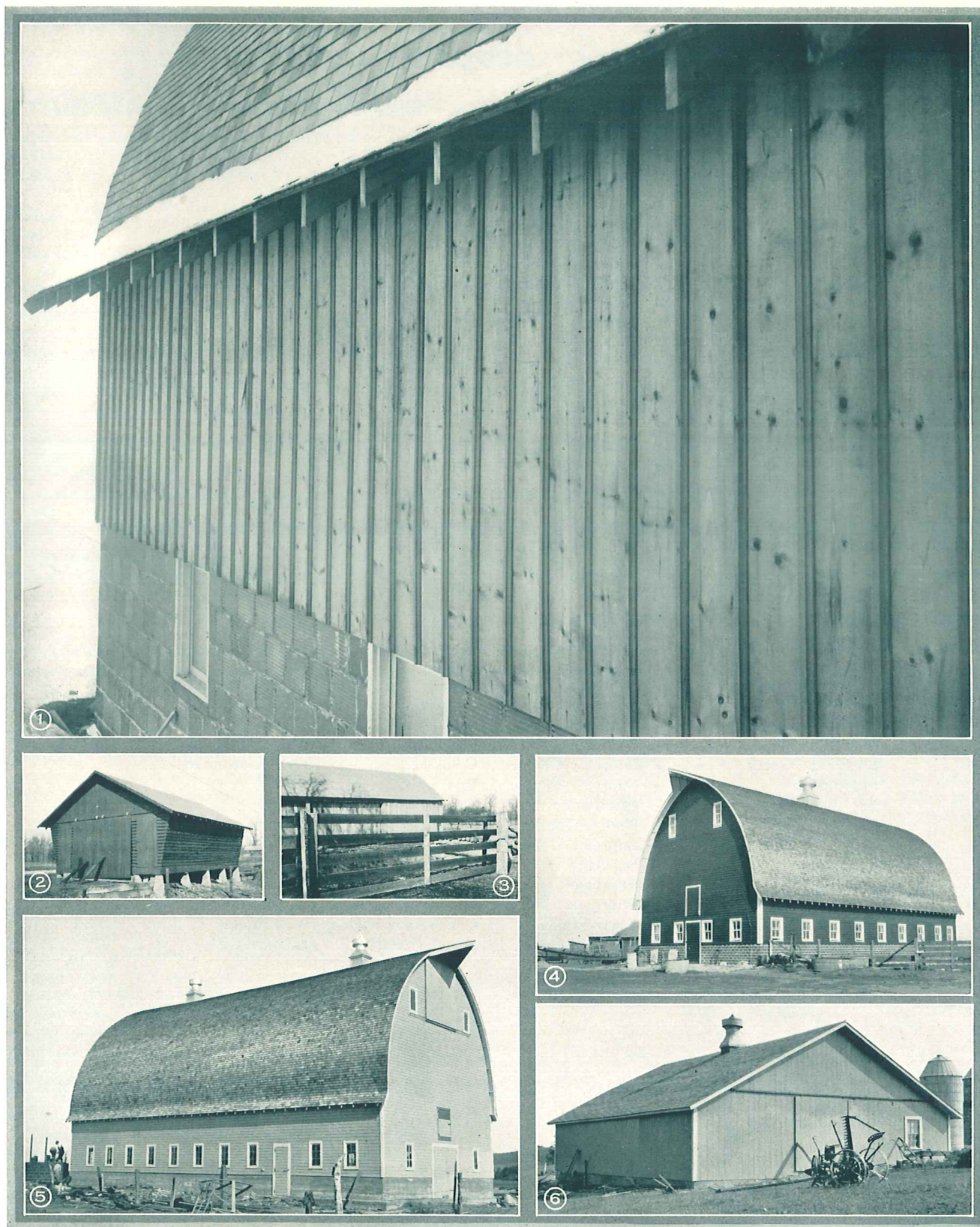
Foundry patterns are the test of a wood-worker's skill and of the properties of a wood. Idaho (genuine) White Pine is one of the principal woods used for pattern-making.

Foundry and Casting Patterns

Pattern making is extremely exacting in its requirements and probably no other use demands more careful selection of the wood. Above all other things a pattern must be easily and accurately fashioned and retain its shape in service. Next, a pattern wood should take nails and screws without splitting and glue up satisfactorily. It should be light in weight yet sufficiently hard to prevent undue marring or denting. Summarizing, a wood suitable for pattern use must meet the following requirements:

1. Easily worked.
2. Ability to retain its shape.
3. Take nails and screws readily without splitting.
4. Easily glued.
5. Light weight.
6. Sufficient hardness.

While thick, clear lumber is ordinarily required, it is sometimes possible in large, built-up patterns, to utilize a good grade of Boards for the covered parts which are not to be shaped.



FARM USES—Idaho White Pine is used in many ways on the farm, such as: (1) Tight-knotted Common barn boards and battens; (2) Corn cribbing; (3) Gates and fences; (4 and 5) Drop siding and large doors in dairy barns, and (6) Matched boards in machinery sheds.

Recommended Grades of Idaho White Pine

CONSTRUCTION USES (Residences and Garages, Multiple Dwellings and Large Buildings)

	<i>High Cost</i>	<i>Medium Cost</i>	<i>Low Cost</i>
Base - - - - -	Supreme-Choice	Choice-Quality	Quality
Bevel Siding - - - - -	B&Btr Siding	C Siding	D Siding
Blinds, Outside - - - - -	No. 1 Blinds	No. 1 Blinds	No. 2 Blinds
Built-in Conveniences - - - - -	Supreme-Choice	Choice-Quality	Sterling-Inch Shop-1&2 Shop
Bungalow Siding - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Byrkit Lath - - - - -	Standard	Utility	Utility
Casing - - - - -	Supreme-Choice	Quality	Quality
Ceiling - - - - -	Supreme-Choice	Quality	Sterling-Standard
Chutes, Laundry - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Colonial Siding - - - - -	Supreme-Choice	Choice	Quality
Concrete Forms - - - - -	Sterling	Standard-Utility	Utility
Cornices - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Cupboards - - - - -	Supreme-Choice	Quality	Quality
Doors - - - - -	No. 1 Doors	No. 2 Doors	No. 2 Doors
Door Frames - - - - -	Supreme	Choice	Quality
Drain Boards - - - - -	Supreme	Choice	Quality
Drop Siding - - - - -	Choice	Quality-Colonial	Sterling-Standard
Flooring (covered) - - - - -	Quality	Colonial-Sterling	Standard
Garden Furniture - - - - -	Supreme	Choice	Quality
Jams - - - - -	Choice-Quality	Colonial	Colonial
Lath - - - - -	No. 1 Lath	No. 1 Lath	No. 2 Lath
Log Cabin Siding - - - - -	Colonial	Colonial-Sterling	Sterling
Moldings - - - - -	Standard Grade	Standard Grade	Standard Grade
Paneling, Enameled - - - - -	Supreme-Choice	Quality	Quality
Paneling, Knotty - - - - -	Special	Colonial	Sterling
Partition - - - - -	Supreme-Choice	Quality	Sterling
Porch Columns - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Porch Work - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Roof Boards - - - - -	Sterling	Standard	Utility
Sheathing - - - - -	Sterling	Standard	Utility
Shelving, Pantry - - - - -	Supreme-Choice	Colonial	Sterling-Standard
Stepping - - - - -	Supreme-Choice	Quality-Colonial	Sterling
Sub-Flooring - - - - -	Sterling	Standard	Utility
Trim, on Cabins - - - - -	Choice-Quality	Colonial-Sterling	Standard
Trim, Exterior - - - - -	Supreme-Choice	Quality	Colonial-Sterling
Trim, Interior - - - - -	Supreme	Choice	Quality
Wainscoting - - - - -	Supreme	Choice	Quality
Window Frames (special) - - - - -	Supreme-Choice	Quality-Colonial	Colonial
Window Frames (stock) - - - - -	Clear Frame	Clear-No. 1 Frame	No. 2 Frame
Window Sash - - - - -	Standard Sash	Standard Sash	Standard Sash

Recommended Grades of Idaho White Pine

FACTORY USES (Special Millwork Factories)

Bins, Flour and Sugar -	Supreme-Choice-Quality-Inch Shop
Blinds - - - - -	Choice-Quality-Inch Shop
Bookcases - - - - -	Supreme-Choice-Quality-Inch Shop-1&2 Shop
Boxes, Flower - - -	Choice-Quality-Inch Shop-Sterling
Breakfast Nooks - -	Choice-Quality-Inch Shop-1&2 Shop
Cabinets, Kitchen and Medicine - - - -	Choice-Quality-Inch Shop
China Closets - - -	Choice-Quality-Inch Shop-1&2 Shop
Columns, Porch - - -	Choice-Quality
Cupboards - - - - -	Choice-Quality-Inch Shop
Counter Tops - - - -	Supreme-Choice-Quality
Doors, Exterior - - -	Choice-Quality-1&2 Shop
Doors, Garage - - -	Choice-Quality-1&2 Shop-Colonial-Sterling
Doors, Interior - - -	Choice-Quality-1&2 Shop
Doors, Knotty - - -	Colonial-Sterling
Doors, Screen - - -	Choice-Quality
Dresser and Wardrobe	Choice-Quality
Drawer Bottoms - - -	Choice-Quality
Fixtures, Bank - - -	1 Shop&Btr-Inch Shop
Fixtures, Built-in - -	Supreme-Choice-Quality-Inch Shop-1&2 Shop
Fixtures, Store - - -	Supreme-Choice-Quality-Inch Shop-1&2 Shop
Frames, Special Door -	Supreme-Choice-Quality-1&2 Shop
Frames, Special Window	Supreme-Choice-1&2 Shop-Quality
Garden Furniture - - -	Selects-Short Sel-Inch Shop
Ironing Boards - - -	Choice-Quality
Jambs, Door - - - - -	Quality-1&2 Shop-Colonial-Sterling
Linen Cases - - - - -	Choice-Quality
Mantels - - - - -	Choice-Quality-Inch Select
Moldings - - - - -	Choice-Quality-Molding Lumber
Paneling, Enameled - -	Supreme-Choice-Quality
Paneling, Knotty - - -	Colonial-Sterling
Pergolas - - - - -	Choice-Quality-Colonial
Pews - - - - -	Supreme-Choice
Pickets, Fence - - -	Choice-Quality
Rose Arbors - - - - -	Choice-Quality-Moldings
Sash, Green House - -	2 Shop-3 Shop
Sash, Screen - - - -	Choice-Quality
Sash, Special Window -	Choice-Quality-3 Shop
Seats, Lawn - - - - -	Choice-Quality
Swings, Porch - - - -	Choice-Quality-Colonial
Stair Work - - - - -	Choice-Quality
Store Fronts - - - -	Supreme-Choice-Quality
Store Fronts, Metal Covered - - - - -	Quality-Sterling
Table Legs - - - - -	Choice
Table Tops - - - - -	Choice-Quality
Trellises - - - - -	Choice-Quality-Moldings
Trim - - - - -	Supreme-Choice-Quality

FACTORY (Stock Sash, Door and Millwork Factories)

Blinds - - - - -	Choice-Quality-Inch Shop
Bookcases - - - - -	Supreme-Choice-Quality
Casings - - - - -	Inch Shop-Short Sel-2&3 Shop
Doors:	
Stiles - - - - -	1 Shop-2 Shop
Rails, Lock - - - -	1 Shop-2 Shop-3 Shop
Rails, top - - - - -	2 Shop-3 Shop
Muntins - - - - -	1 Shop-2 Shop-3 Shop
Door Frames - - - - -	Short Sel-Shop
Garden Furniture - - -	Selects-Short Sel-Shop
Ironing Boards - - - -	Choice-Quality
Jambs, Door - - - - -	1 Shop-2 Shop
Lawn Seats - - - - -	Choice-Quality
Moldings - - - - -	Short Sel-Shop-Molding Lbr.
Panels, Door - - - - -	1 Shop & Btr.
Pergolas - - - - -	Choice-Quality-Colonial
Pickets, Fence - - - -	Choice-Quality
Porch Columns, Turned -	1 Shop&Btr-Selects
Porch Swings - - - - -	Choice-Quality-Colonial
Rose Arbors - - - - -	Choice-Quality
Sash - - - - -	2 Shop-3 Shop
Screen Doors - - - - -	Short Sel-Sterling-Inch Shop-2&3 Shop
Screen Sash - - - - -	Short Sel-Inch Shop-2&3 Shop
Shutters - - - - -	Short Selects-Shop
Sills, Door - - - - -	Thick Selects
Sills, Window - - - - -	Thick Selects
Storm Doors - - - - -	Short Sel-Shop-Sterling
Storm Sash - - - - -	3 Shop-Inch Shop
Table Legs - - - - -	Choice
Table Tops - - - - -	Choice-Quality
Trellises - - - - -	Choice-Quality-Moldings
Window Frames - - - -	Short Sel-Shop-Sterling

Recommended Grades of Idaho White Pine

RAILROAD USES

Box Car Running Boards - - -	Choice-Colonial-Sterling
Box Car Siding - - - - -	Choice
Cable Boxes - - - - -	Sterling
Coal Doors - - - - -	Utility-Industrial
Gates - - - - -	Sterling-Standard
Grain Doors - - - - -	Utility-Industrial
Patterns, Foundry - - - - -	Supreme-Choice-1&2 Shop
Refrigerator Car Running Boards	Choice-Colonial-Sterling
Refrigerator Car Siding - - -	Choice
Round Houses - - - - -	See Barns under Farm Uses
Shelving - - - - -	Sterling-Standard
Sign Boards - - - - -	Sterling
Small Buildings - - - - -	Sterling-Standard
Snow Fencing Boards - - - -	Standard
Snow Fencing (wire) - - - -	1 Snow Fence Lath
Stations and Freight Houses -	See Construction Uses
Watchman's Shelter - - - -	Sterling
Water Tanks - - - - -	Colonial

FARM USES

Barn Siding - - - - -	Sterling-Standard
Bevel Siding - - - - -	B&Btr Sdg-C Sdg-D Sdg
Barn Boards and Battens - -	Sterling-Standard
Chicken Houses - - - - -	Sterling-Standard-Utility
Chicken Feeders - - - - -	Colonial-Sterling-Standard
Corn Cribbing - - - - -	Sterling-Standard
Corn Crib Floors - - - - -	Standard
Cornices, Barn - - - - -	Sterling-Standard
Cupolas - - - - -	Quality-Sterling
Drop Siding - - - - -	Choice-Quality-Colonial-Sterling-Standard
Feeding Racks - - - - -	Sterling-Standard
Fox Pens - - - - -	Sterling-Standard
Fruit Driers - - - - -	Standard
Fruit Drying Trays - - - -	Sterling
Garages — See Construction Uses.	
Gates and Fences - - - - -	Sterling-Standard
Gateways - - - - -	Choice-Quality-Sterling
Grain Chutes - - - - -	Sterling
Granaries - - - - -	Sterling-Standard
Green Houses - - - - -	Standard
Green House Plant Frames - -	Sterling
Grooved Roofing - - - - -	Sterling-Standard
Hay Loft Floors - - - - -	Sterling-Standard
Hay Rack Boards - - - - -	Sterling-Standard
Hog Houses - - - - -	Sterling-Standard
Hog Feeding Troughs - - - -	Sterling-Standard
Hot Beds, Covers - - - - -	Standard
Ice Houses - - - - -	Standard-Utility
Machine Sheds - - - - -	Sterling-Standard-Utility
Rabbit Hutches - - - - -	Standard
Residences — See Construction Uses.	
Roofs, Hay Stacks and Temporary	
Corn Crib - - - - -	Standard-Utility
Seed Bed Boards - - - - -	Sterling
Silo - - - - -	Colonial-Sterling
Stall Partitions - - - - -	Sterling-Standard
Sheds, Tobacco - - - - -	Sterling-Standard
Stock Shelters - - - - -	Standard
Wagon Boxes - - - - -	Choice-Quality-Colonial
Water Tanks - - - - -	Colonial-Sterling
Watering Troughs - - - - -	Colonial-Sterling
Wayside Market Buildings - -	Standard
Well Curbing - - - - -	Sterling-Standard

Recommended Grades of Idaho White Pine

INDUSTRIAL USES

Airplane Hangar Roof Sheathing	Standard-Utility
Airplane Hangar Siding - - -	Quality-Sterling-C&D Bev Sdg
Airplane Hangar Sliding Doors -	Selects-Sterling-Standard
Auto Floor Boards - - - -	Colonial-Sterling-Standard
Auto Running Boards - - - -	Sterling-Standard
Backing, Furniture, Mirrors etc.	Standard-Quality
Boxes, Shipping - - - - -	Standard-Quality
Boxes, Casket Shipping - - -	Standard
Caskets, Covered - - - - -	Sterling-Standard
Concrete Forms - - - - -	Sterling-Standard
Construction Offices, Sheds and Enclosures - - - - -	Standard-Utility
Crates, Glass Plant - - - - -	Utility
Crates, Shipping - - - - -	Standard-Utility-Industrial
Display Platforms, Auto Sales Rooms - - - - -	Sterling-Standard
Doors, Metal Clad - - - - -	Standard
Flasks, Foundry - - - - -	Sterling-Standard
Flumes - - - - -	Sterling
Gaskets, Large Pipe Lines - -	Supreme-Choice
Matches - - - - -	Standard & Btr
Mattress Lumber, River Work -	Sterling-Standard-Utility
Molding, Bill Board - - - -	Sterling
Partitions, Office - - - - -	Choice-Colonial-Sterling
Patterns, Templates - - - - -	Supreme-Choice-Quality-1&2 Shop
Shelving, Store - - - - -	Choice-Quality-Sterling-Standard
Shelving, Warehouse - - - -	Sterling-Standard
Shelving, Rough - - - - -	Standard
Shelving, Glued Hardwood Edge	Quality-Colonial-Sterling
Sidewalks, Temporary - - - -	Standard
Sign Boards, Small - - - - -	Sterling
Spouts, Flour Mill - - - - -	Supreme-Choice
Stadium Seats - - - - -	Sterling
Strips, Backing Metal Signs -	Sterling-Standard
Tables, Sample Room - - - -	Colonial-Sterling-Standard
Tanks - - - - -	Supreme-Choice-Colonial-Sterling
Theatre Scenery Strips - - -	Supreme-Choice-Quality
Theatre Staging - - - - -	Colonial-Sterling
Tables, Meat Cutting - - - -	Supreme-Choice
Tubs, Laundry - - - - -	Choice-Colonial

MISCELLANEOUS USES

Agricultural Implements - - -	Supreme-Choice
Awning Rollers - - - - -	Selects
Bee Hives - - - - -	Inch Shop
Billboard Framing - - - - -	Sterling-Standard
Billboard Moldings - - - - -	Sterling
Blackboards - - - - -	Supreme-Choice
Boats - - - - -	Supreme-Choice
Bookcases - - - - -	Supreme-Choice-Quality-Colonial-Sterling
Boxes, Flower - - - - -	Choice-Quality-Sterling
Boxes, Fruit - - - - -	Standard-Utility
Brooders and Incubators - - -	Short Sel-Inch Shop-Sterling
Built-in Fixtures - - - - -	Choice-Quality
Card Tables - - - - -	Choice-Quality
Chair Seats - - - - -	Quality-Inch Shop-1&2 Shop
Crates - - - - -	Standard-Utility
Drain Boards - - - - -	Inch Shop-Short Sel
Drawing Boards - - - - -	Supreme-Choice
Drawer Bottoms - - - - -	Choice-Quality
Fence Pickets - - - - -	Choice-Quality
Foundry Patterns - - - - -	Supreme-Choice-Quality-Shop-Sterling
Furniture, Garden - - - - -	Choice-Quality
Grand Stand Seats - - - - -	Sterling
Honey Comb Slats - - - - -	Inch Shop
Ironing Boards - - - - -	Choice-Quality
Lawn Seats - - - - -	Choice-Quality
Novelties - - - - -	Choice-Quality-Inch Shop-1&2 Shop
Organ Pipes - - - - -	Supreme-Choice-Inch Shop
Pastry Boards - - - - -	Short Select-Inch Shop
Pergolas - - - - -	Choice-Quality-Colonial
Picture Frames - - - - -	Choice-Quality-Sterling-Standard
Picture Backing - - - - -	Standard-Utility
Porch Swings - - - - -	Choice-Quality-Colonial
Rabbit Hutches - - - - -	Standard
Refrigerator Backing - - - -	Sterling-Standard
Rose Arbors - - - - -	Choice-Quality-Moldings
Rug Poles - - - - -	Selects
Sample Room Tables - - - -	Colonial-Sterling-Standard
School Desk Tops - - - - -	Short Selects
School Manual Training Lumber	Choice-Quality-Colonial-Sterling-Standard
Stadium Seats - - - - -	Supreme-Choice-Sterling-Inch Shop-1 Shop
Store Fronts - - - - -	Choice-Quality
Store Fronts (metal covered) -	Quality-Sterling
Table Legs - - - - -	Choice
Table Tops - - - - -	Choice-Quality
Toys - - - - -	Selects-Short Sel-Inch Shop-2 Shop-3 Shop
Trellises - - - - -	Choice-Quality-Moldings
Water Tanks - - - - -	Colonial-Sterling
Wash Boards - - - - -	Short Sel-Inch Shop
Washing Machine Parts - - -	Selects-Inch Shop

Standard Manufactured Sizes-Idaho White Pine

*The thicknesses apply to all widths and lengths, and the widths to all thicknesses.

SELECTS (FINISHING LUMBER) AND BOARDS

Working	Size, board measure		Dressed Dimensions		
	Thickness	Width	Thickness	Width	Lengths
	Inches	Inches	Inches	Inches	Feet
S4S*	1 1 1/4 1 1/2 2 Over 2	4 6 8 10 12 Over 12	25/32 15/32 113/32 95/32 115/32 Off 3/8 (See Shop Sizes)	35/8 55/8 75/8 95/8 115/8 Off 3/8	6 to 20 Finish— 1 ft. multiples Boards— 2 ft. multiples Amount shorter than 8 ft. limited.
S2S & S1S*	Same	Same 13" & wdr. (max. 28")	Same	(See Rough Sizes)	Same (max. 22')
S2S & CM*	Same	4 6 8 10 12	Same	Face Over-all 3 1/4 3 1/2 5 1/4 5 1/2 7 1/4 7 1/2 9 1/4 9 1/2 11 1/4 11 1/2	Same
Flooring (D&M)*	Same	4 6	Same	3 1/4 3 1/2 5 1/4 5 1/2	Same
Drop Siding & Rustic (S2S & CM)*	1	4 6 8	25/32	3 1/4 3 1/2 5 1/4 5 1/2 7 1/4 7 1/2	Same
Drop Siding & Rustic (Shiplapped)*	Same	4 6 8	Same	3 3 1/2 5 5 1/2 7 7 1/2	Same
Shiplap*	Same	4 6 8 10 12	Same	3 3 1/2 5 5 1/2 7 7 1/2 9 9 1/2 11 11 1/2	Same
Ceiling and Partition (S2S & CM)	(5/8)	4 6	9/16	3 1/4 3 7/16 5 1/4 5 1/16	Same
	1	4 6	25/32	3 1/4 3 1/2 5 1/4 5 1/2	

BEVEL SIDING GRADES

Bevel Siding*	(1/2)	4 5 6	Thick Edge 1/16 by 3/16	Thin Edge 3/16	3 1/2 4 1/2 5 1/2	3/20, in multiples of 1 ft. Amount shorter than 8 ft. limited.
Wide Bevel Siding* (Colonial or Bungalow)		8 10 12	3/4 by 9/32	75/8 95/8 115/8		6/20
Rabbetted Bevel Siding* (Dolly Varden)		6 8 10	11/16 by 5/16 13/16 by 13/32	(Rabbet) (1/2") 5 1/2 7 1/2 9 1/2		Same

FACTORY AND SHOP LUMBER

S2S*	1 1 1/4 1 1/2 2 2 1/4 2 1/2 3 4	5 and wider	25/32 15/32 113/32 95/32 115/32 23/8 25/8 33/8	(See Rough Sizes)	6/20, in multiples of one ft.
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LATH

Rough			3/8	1 1/2	48"	32"
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MOLDINGS

Standard Molding Book Patterns. Lengths: 4 to 20 ft. in multiples of one ft. Amount shorter than 8 ft. limited.

Minimum Standard Rough Dry Sizes (All Grades)

The minimum standard sizes of rough lumber when dry should be sufficient to dress to standard sizes.

Illustrations and Descriptions of the Standard Grades of Idaho White Pine Lumber

General Remarks⁶

The accompanying descriptions are based on the standard rules of the Western Pine Association, which were first adopted February 2, 1910. They are a modification of the Northern Pine Manufacturers Association rules under which the manufacturers belonging to this Association were grading lumber prior to the adoption of western rules. The Northern Pine rules were formulated in 1894. The western standards of grades and sizes have been revised slightly from time to time to meet the demands of changing conditions but are the only rules under which the manufacturers of IDAHO WHITE PINE grade this lumber.

While IDAHO WHITE PINE is frequently regraded in the different markets to conform to various local grading rules before being sold to the ultimate consumer, all retail and wholesale lumber dealers who have handled IDAHO WHITE PINE will be familiar with Western Pine Association grades, since purchases from manufacturers are always made on this basis. Accordingly, these dealers, though perhaps using local grades, can intelligently furnish IDAHO WHITE PINE when the accompanying grades are specified or ordered.

This compilation has been prepared for the purpose of acquainting the individual who is not familiar with this wood with its standard grades and sizes. The illustrations are of representative boards. Every effort has been made to reproduce the pieces in as near their natural tones as photographic and engraving processes will permit, but to assist the reader still further, piece descriptions are included.

A copy of the official grading rules will gladly be furnished upon request to the Association, however, the information that follows is reliable.

⁶ See American Lumber Standards on page 5.

Supreme (B Select & Btr) Idaho White Pine

Description

Supreme IDAHO WHITE PINE is the highest recognized grade of this wood. It is practically a perfect grade and only the eye of the experienced grader is able to detect the minor defects that are found in occasional pieces. These latter pieces, which will range from 4 to 12 inches

in width ordinarily, will run to the low end of the grade, and may show a small amount of very light stain, or one piece may contain one or two small pin knots, while another may have a small amount of very light localized pitch or tiny season checks that are hardly visible to the eye. Although lumber is graded from the better side, even the backs of pieces in Supreme grade must be extremely high quality. To all intents and purposes this grade is clear.

Sizes Available

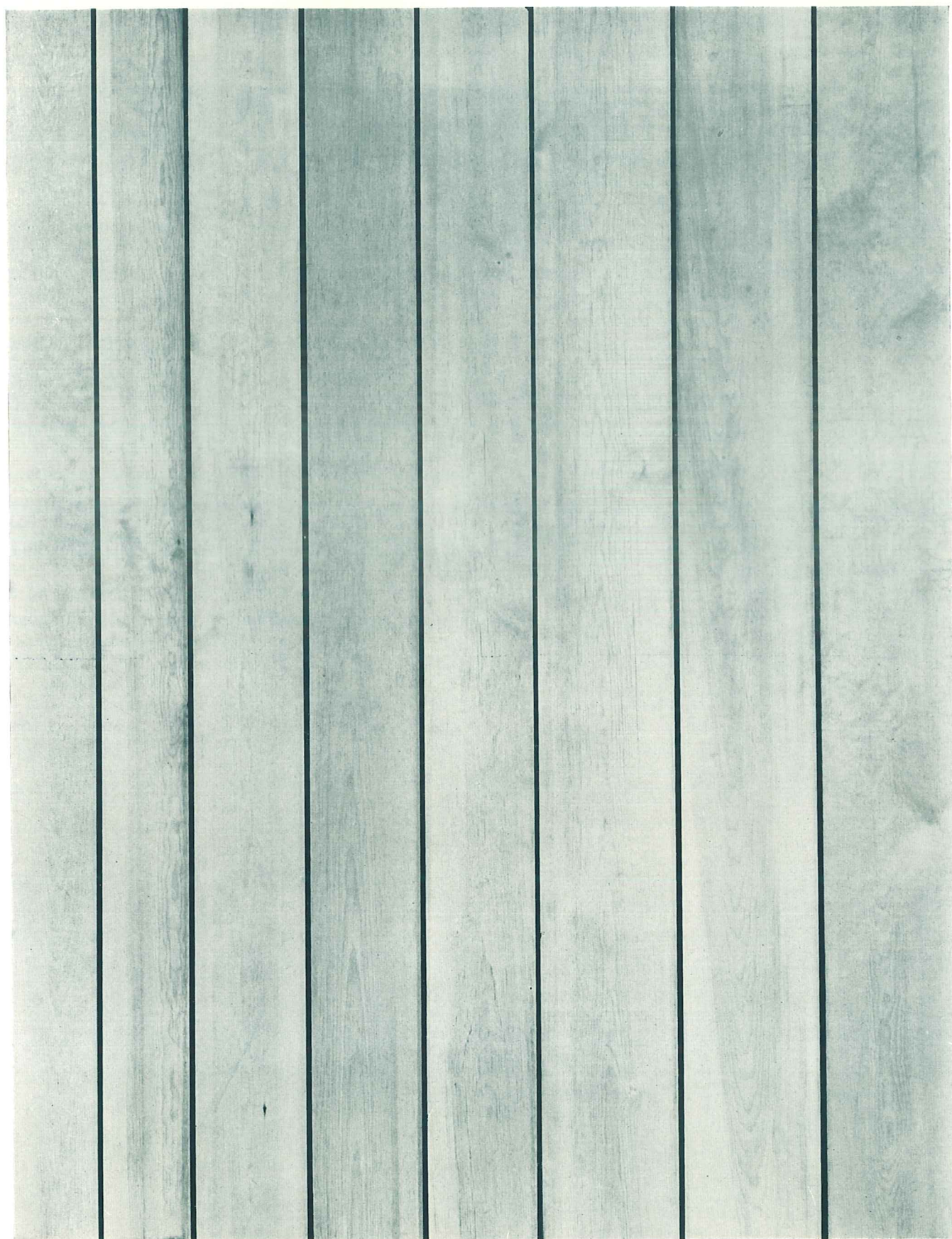
It is furnished regularly in 4/4, 5/4 and 6/4 thicknesses, and in certain instances 8/4 to 16/4 stock may be procured. The 4/4 - 4" to 12" is usually shipped in specified widths and lengths and the wider stock as 13" and wider, although the latter may also be ordered 14", 16" and 18" or wider. If preferred this grade may be shipped in mixed widths and lengths, and in such cases will be mostly 8' to 16', with a small proportion shorter or longer than those lengths. 5/4", 6/4" and 8/4" are usually shipped in mixed widths and lengths, with a relatively small proportion of short lengths and narrow widths, but are also furnished in specified lengths and widths when so ordered.

Uses

Supreme IDAHO WHITE PINE is suitable for finishing work of the very highest class, including exterior and interior trim, siding, paneling, enameled work, and the like, for houses of the more expensive type. It is also used for special industrial uses where practically clear lumber in fairly large pieces is desired.

Examples of Supreme Idaho White Pine illustrated on opposite page

- | | |
|------------------|--|
| No. 1. 1x8"-10' | Face. Entirely free from defects. |
| No. 2. 1x8"-10' | Face. Shows two pin knots. One near the end, the other near the center. |
| No. 3. 1x10"-10' | Face. Shows a pin knot about 14" from end and another near center. |
| No. 4. 1x10"-10' | Face. Has a perfect face. |
| No. 5. 1x10"-10' | Face. Very light traces of pitch in center and near end. |
| No. 6. 1x12"-10' | Face. A pin knot close to the end and light local pitch in center. |
| No. 7. 1x12"-10' | Face. A small spot of torn grain, hardly visible, on one edge, otherwise perfect. |
| No. 8. 1x12"-10' | Face. One inch of light brown stain at one end for two feet. |



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Supreme (B Select & Btr) Idaho White Pine

8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Choice (C Select) Idaho White Pine

Description

Choice IDAHO WHITE PINE is also of very good appearance and is based on the idea of furnishing a high class paint finish wood. Numerous pieces are found in this grade with a Supreme face, having been lowered because the backs of the pieces are slightly poorer than

are admissible in the higher grade. Other pieces have a clear appearance, but on closer examination may show slightly torn grain, fine checks or possibly light pitch. In many pieces the defects are readily noticeable. These include scattered small, tight knots, or medium blue or brown stain covering not more than one-third of the face area provided the stain is not in serious combination with other blemishes that detract from the high appearance of the piece. This grade, while it will permit slightly more and slightly larger defects than the Supreme is well suited to the very highest uses, except where practically clear lumber is required.

Sizes Available

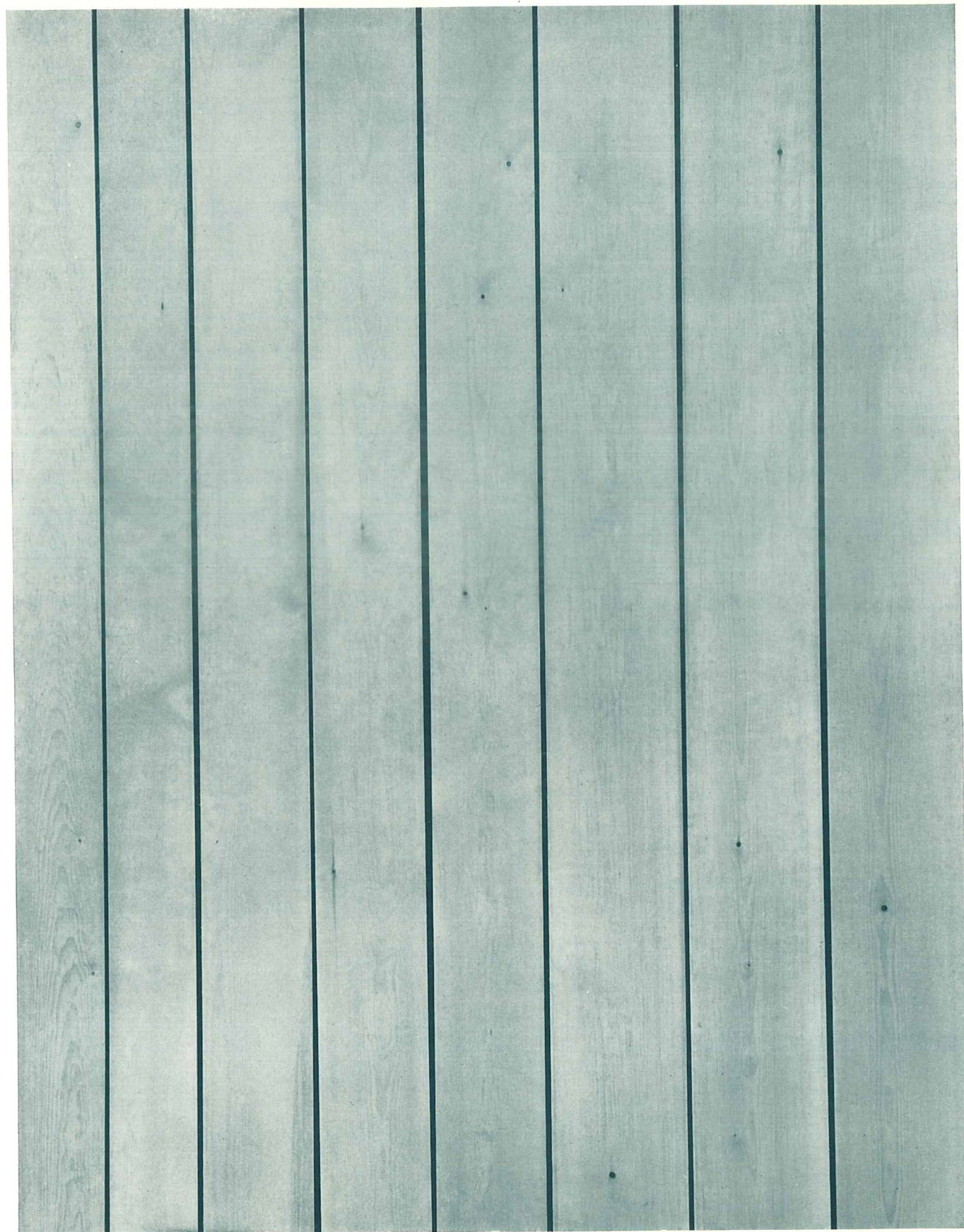
Choice lumber, like the Supreme, is readily available in the varying thicknesses, widths and lengths, and the same manner and method of shipping will apply as outlined in the case of the Supreme. Like the latter grade, the proportion of 4" and 6" widths is small, and 6' lengths very limited in shipments calling for mixed widths and lengths.

Uses

Choice lumber is a highly serviceable grade for better quality exterior and interior finish, including casing, base, built-in fixtures, partition, wainscoting, cornices, door frames and porch details, where the small amount of defects or blemishes that are found can be easily and satisfactorily covered with paint or enamel.

Examples of Choice Idaho White Pine illustrated on opposite page

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| No. 1. 1x8"-10' | Face. Three pin knots and light pitch.
Back. $\frac{3}{4}$ " of wane for 11" at one end, four pin knots well scattered and light pitch showing for half the length. |
| No. 2. 1x8"-10' | Face. Three slightly torn grain spots and one very small bark pocket.
Back. One pin knot and 1" of stain along the edge for half the length. |
| No. 3. 1x10"-10' | Face. Two inches of medium brown stain for 3' on edge at one end.
Back. Three inches brown stain on edge at one end and several light season checks for 3' at same end. |
| No. 4. 1x10"-10' | Face. Two pin knots and a narrow streak of pitch 5" long.
Back. Six scattered pin knots and two pitch seams, one at center and the other at the end. |
| No. 5. 1x10"-10' | Face. Three pin knots well scattered over half the board and one 2" end check.
Back. Four pin knots, a spot of rough milling and a 3" end check. |
| No. 6. 1x12"-10' | Face. One pin knot 3' from one end, and one not firmly set pin knot 1' from other end.
Back. A $\frac{1}{8}$ " black knot 3' from one end. At the other end two pin knots, one of which is not firmly set. |
| No. 7. 1x12"-10' | Face. Three pin knots and at one end a streak of rather heavy pitch $\frac{1}{2}$ " by 4" long.
Back. Eight pin knots, six of which are located within 3' of one end. |
| No. 8. 1x12"-10' | Face. Two pin knots and at one end one $\frac{3}{8}$ " knot.
Back. Two pin knots, and 5" of wane on edge. |



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Choice (C Select) Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Quality (D Select) Idaho White Pine

Description

Quality is the lowest standard grade of finishing lumber. It is fairly smooth appearing and is a good practical grade where something better than Boards is desired. It belongs between the higher finishing grades and the Board grades, and although it partakes some-

what of the nature of both, it retains its Select or Finish appearance as distinguished from Boards. This grade includes pieces showing a finish appearance on one side only, the back of the board at times showing either knots, pitch, or rot or wane, or a combination thereof, but in such cases the face is correspondingly high. Other pieces will carry a number of small knots or pin knots or medium stain covering the face when otherwise free from serious imperfections. Another type often placed in Quality is a high grade or high line piece showing a knot hole or other similar type of defect usually eliminated in finishing work, and therefore requiring a cut to remove the defect before the material is installed. Only a small proportion, however, of the cutting type is usually found in shipments of Quality.

Sizes Available

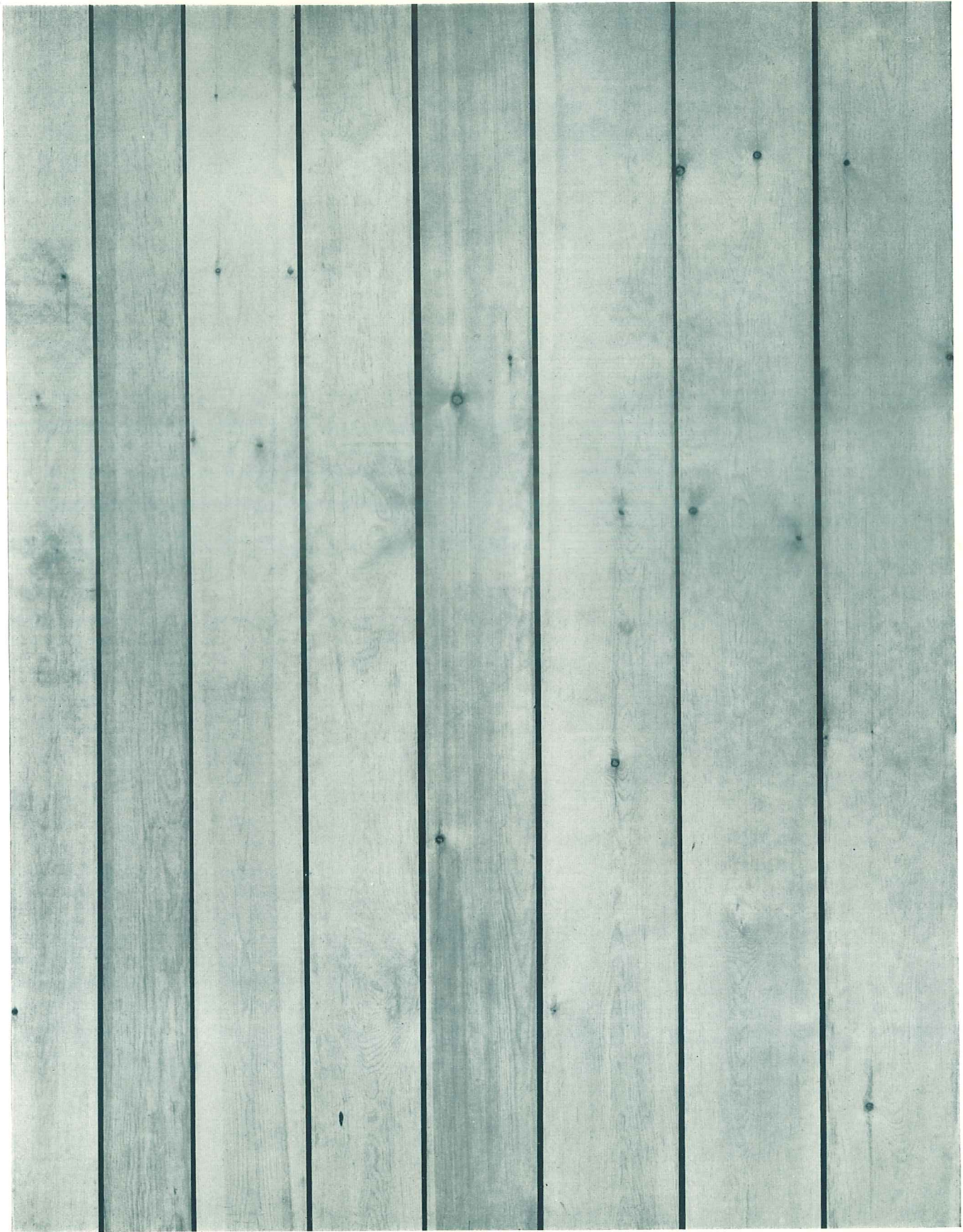
As in the case of Supreme and Choice lumber, Quality is obtainable in 4/4 to 8/4 thicknesses, and in specified or mixed widths and lengths. Like the two higher grades the proportion of stock in mixed lengths and widths shipments shorter than 10' or narrower than 8" is relatively small. Quality, as well as Choice and Supreme, in addition to being furnished S2S or S4S, may be ordered resawn, ripped to any size, or worked to any pattern.

Uses

Quality lumber is suitable for lower quality interior trim, and for use in moderate or low cost houses. It can be used economically for purposes requiring shorter length clear lumber, or lumber of fairly good quality and is used for such purposes as window casing, cornice work, window and door frames, kitchen and pantry cupboards, shelving, moldings and the like. It is an especially attractive grade for the small planing mill, and works up into various articles of millwork with little waste.

Examples of Quality Idaho White Pine illustrated on opposite page

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|------------------|---|
| No. 1. 1x8"-10' | Face. Four pin knots well scattered and two spots of torn grain.
Back. Two pin knots and one 3/4" and a 1" tight black knot. |
| No. 2. 1x8"-10' | Face. Light pitch for 8" at each end. Very high appearance.
Back. Four streaks of heavy pitch, all about 1" wide. One is 3' long, the others somewhat shorter. They are all well scattered. |
| No. 3. 1x10"-10' | Face. Six pin knots within 4' of one end.
Back. Six pin knots within 4' of end, one 5/8" knot, and one pin knot has broken out on edge in dressing. |
| No. 4. 1x10"-10' | Face. An open medium pitch pocket close to end, slightly torn grain on edge, a 3" tight end cheek and a light crossing stain in center.
Back. One 5/8" black knot 2' from end, torn grain in three places. |
| No. 5. 1x10"-10' | Face. Two small knots and one pin knot, small patch of rough milling. These defects well scattered.
Back. Same knot defects but shows more rough milling. |
| No. 6. 1x12"-10' | Face. One loose 3/4" knot 4' from end. Balance of board very high, showing two pin knots. A "cutting" piece.
Back. In addition to the loose knot shows three 5/8" tight knots. |
| No. 7. 1x12"-10' | Face. Two small, not firmly set knots on edge, one 5/8" and one pin knot, both tight.
Back. Three small knots, two of which are not firmly set and two other knots, one medium and one small. |
| No. 8. 1x12"-10' | Face. One 5/8" knot near end and a not firmly set pin knot near other end. Balance of board shows four pin knots well scattered and two short narrow streaks of pitch
Back. Same knot defects and shows medium pitch along one edge. |



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Quality (D Select) Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Colonial (No. 1 Boards) Idaho White Pine

Description

Colonial is the highest of five grades into which IDAHO WHITE PINE Boards are segregated. Colonial contains pieces that are mostly of the knot defect type. The knots are always sound, red or intergrown, smooth, and are limited in size to slightly over 2 inches in diameter,

depending upon the size of the piece, but as a rule the knots average very much smaller and are well distributed along the board. Only pieces that show smooth dressing around the knots will be found in this grade. In pieces that contain smaller or fewer knots, very small pitch pockets or season checks, or equivalent small blemishes may sometimes be found. Light stain extending over the face is permitted in otherwise high quality pieces. When defects other than knots occur they are of a minor nature and do not affect the high quality of this best grade of Boards. Usually the knots in this grade are round, or oval in shape, and seldom occur on the edges of the board.

Sizes Available

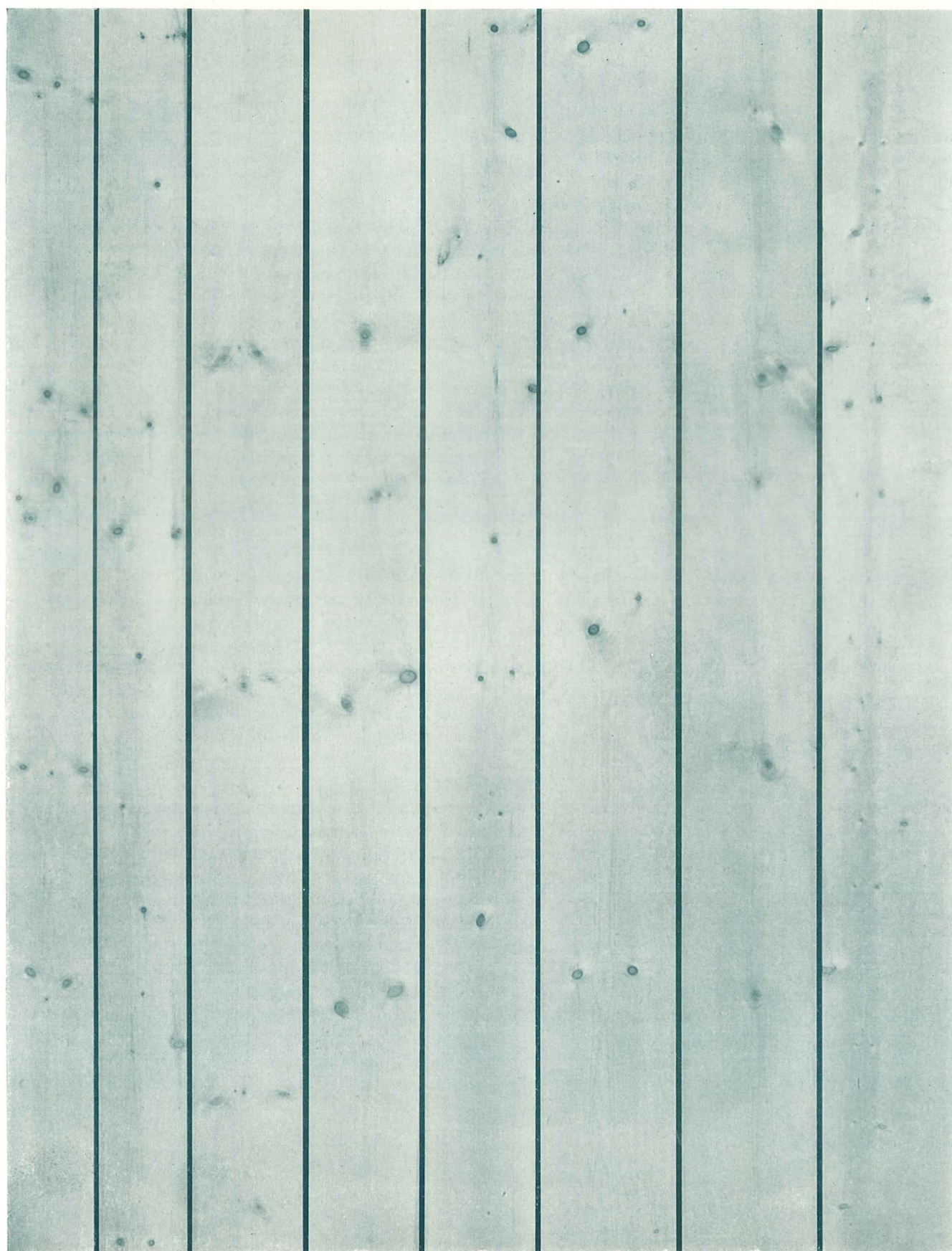
Most of the IDAHO WHITE PINE Colonial produced is 4" to 12"-8' to 16', and is shipped in specified widths and lengths, but a proportion of the amount is available in 4/4-13" & wider and 5/4" and 8/4". Besides the stock sizes this grade may be ordered ripped, resawn or run to pattern.

Uses

Colonial IDAHO WHITE PINE is highly suitable for any purposes where sound and firmly set knots can be used and where exacting service is required. In many instances it is used as a finishing lumber in moderate priced homes, both for exterior and interior work. It is especially in demand for stock window and door frames, for cornices, jambs, drop siding, and cupboard shelving. Colonial IDAHO WHITE PINE is beyond question the finest grade of Boards available today. It is used in increasing quantity for knotty Pine paneling, especially for installations where small, round, tight knotted boards are preferred. Because of the uniformity of this type in Colonial practically no sorting is necessary to obtain material from the grade for this special use.

Examples of Colonial Idaho White Pine illustrated on opposite page

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|------------------|---|
| No. 1. 1x8"-10' | Seventeen sound red knots, the two largest measuring 1" in diameter. |
| No. 2. 1x8"-10' | Sixteen perfect sound red knots varying in size from pin knots to 1" in diameter. |
| No. 3. 1x10"-10' | Four sound red knots $\frac{3}{4}$ " in diameter and 8 smaller knots all red and sound. In addition has 2 red knots $1\frac{1}{4}$ " in diameter showing a small check in each. |
| No. 4. 1x10"-10' | Three red knots $1\frac{1}{4}$ " in diameter, one of which shows a check across it. Three small and three pin knots all sound and red. |
| No. 5. 1x10"-10' | Two sound red knots $\frac{3}{4}$ " in size, 13 smaller knots and 2 very small, dry pitch pockets with slightly torn grain around two of the knots. |
| No. 6. 1x12"-10' | Six sound red knots 1" in diameter and four smaller knots. A very high No. 1. |
| No. 7. 1x12"-10' | Three red $1\frac{1}{2}$ " knots, slightly checked, and 6 sound red knots from $\frac{1}{2}$ " to 1" in diameter. Knots are well scattered and appearance smooth. |
| No. 8. 1x12"-10' | There are a great many knots in this piece but they are all small, sound and tight and well distributed. One very small pitch pocket and two small season checks. |



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Colonial (No. 1 Boards) Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Sterling (No. 2 Boards) Idaho White Pine

Description

Sterling IDAHO WHITE PINE is a very popular grade and accounts for a heavy percentage of the total production of lumber at the Idaho White Pine mills. It may be called an allround utility grade as it is suitable for all uses where a good grade of Boards is required,

except those needing the very finest, or Colonial grade. It permits the same defects as Colonial, except that knots of larger size and not necessarily sound, though usually so, are permitted. In narrow widths knots are generally limited to $2\frac{1}{2}$ " in diameter, in widths to $3\frac{1}{2}$ ", but the average diameter of knots is much smaller than the maximum allowed. Heart pith, pitch, or slight traces of incipient decay and an occasional spike or branch knot are admissible in pieces falling in the lower end of the grade. Pitch pockets and season checks are to some degree more prominent and more numerous than in Colonial. Medium stain extending over the face is admissible if the board is otherwise of a high type of Sterling.

Sizes Available

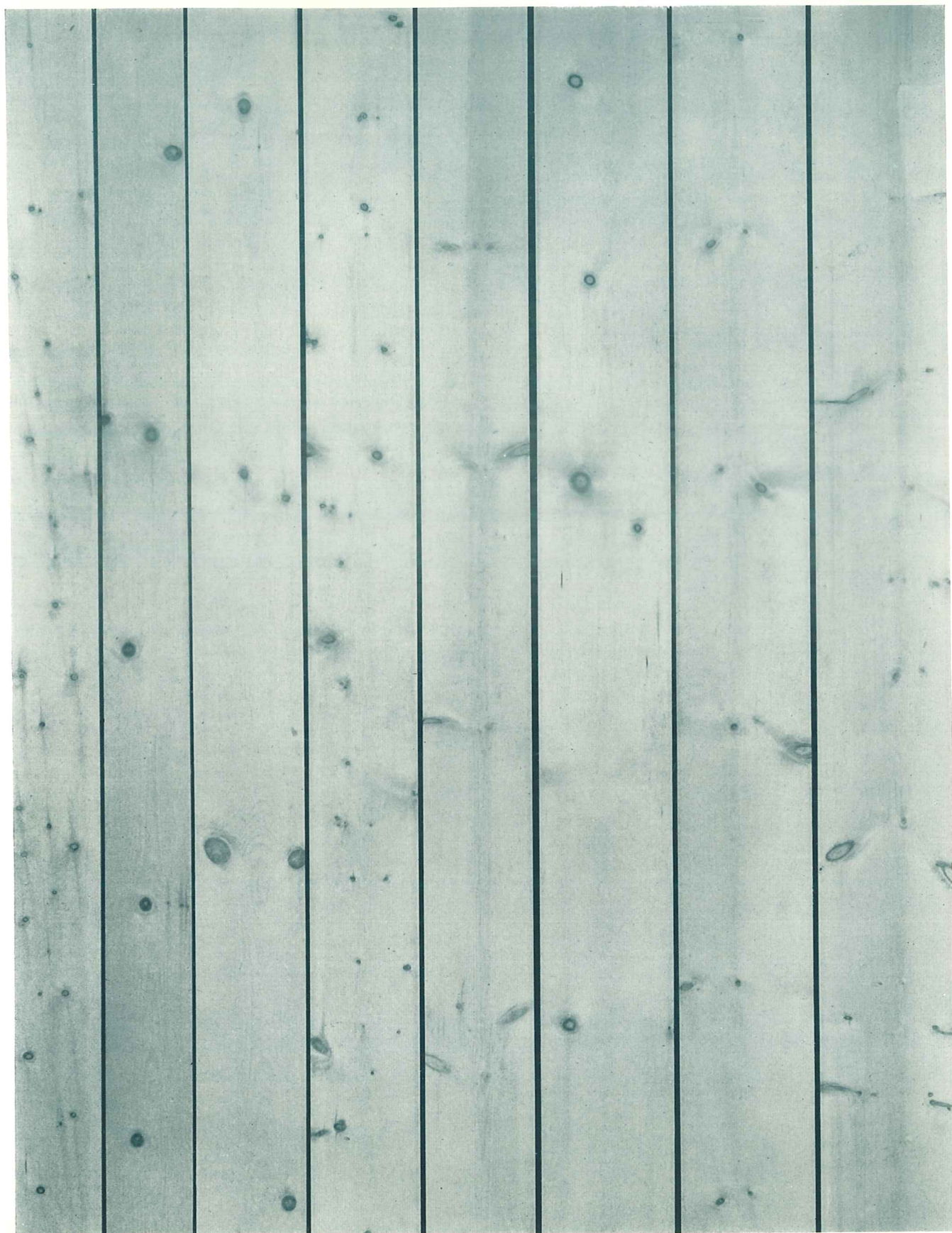
The greater part of the Sterling IDAHO WHITE PINE is shipped in specified widths and lengths ranging from 4" to 12"-8' to 16' with some 18' and 20'. It may also be ordered 13" & wider. Considerable amounts are shipped in the $\frac{5}{4}$ to $\frac{8}{4}$ thicknesses. Besides the stock sizes it is furnished ripped or resawn, and a great deal of it is supplied worked to pattern.

Uses

Sterling IDAHO WHITE PINE is a good grade of Boards and is used for concrete forms, high class house sheathing, barn siding, dressed and matched flooring, ceiling, drop siding and shelving, also for exterior parts of inexpensive farm and factory buildings and houses of the cheaper class. Another use that is taking considerable of this grade is for knotty Pine paneling. While not all of the pieces in the grade are suitable for paneling, there are a good many that can easily be selected from the average run of Sterling. These are of the coarser branch knot variety, which are preferred in many instances to the small round tight knotted stock of Colonial that is also used.

Examples of Sterling Idaho White Pine illustrated on opposite page

No. 1. 1x8"-10'	Has a great number of knots, both red and black, all tight and $\frac{3}{4}$ " and less in diameter.
No. 2. 1x8"-10'	Shows six red knots from $1\frac{1}{4}$ " to $1\frac{3}{4}$ ", five of which show a check across them, and three pin knots.
No. 3. 1x10"-10'	This piece has two $\frac{3}{4}$ " knots, one of which is black and not firmly set. Three $1\frac{1}{2}$ " red checked knots and one $2\frac{1}{4}$ " sound red knot.
No. 4. 1x10"-10'	Shows numerous knots, all sound and red, the largest measuring $1\frac{1}{4}$ " in diameter. Reverse side shows a 4" checked branch knot, the check showing on face of board for 1".
No. 5. 1x10"-10'	Three $3\frac{1}{2}$ " branch knots and twelve smaller knots, all red and sound. Opposite side shows heart shake for 4'.
No. 6. 1x12"-10'	One red knot 2" in diameter with a check across it and five smaller sound red knots averaging $1\frac{1}{4}$ " in diameter, three very small pitch pockets and two torn grain spots.
No. 7. 1x12"-10'	Shows a checked branch knot reaching the edge. The check is $1\frac{1}{2}$ " long and shows through the board. Has eleven other knots, all sound, red and small, and a spot about 6" square which has failed to dress smoothly. A high appearing board.
No. 8. 1x12"-10'	Four branch knots 3" in length and eighteen red knots from $\frac{1}{2}$ " to $1\frac{1}{4}$ " in diameter, 6" of heart pith in one end and a 10" season check in center.



Sterling (No. 2 Boards) Idaho White Pine
8, 10 and 12-inch Widths

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SCALE 1 INCH=1 FOOT

Standard (No. 3 Boards) Idaho White Pine

Description

Standard includes pieces having a wider range of defects, varying from the piece of an otherwise Colonial or Sterling quality with a single defect which causes it to grade Standard, down to pieces showing numerous coarse knots or boards with loose knots or an occasional

knot hole. A piece containing a knot hole is generally of otherwise high quality. A limited amount of heart shake and pitch may be found in low line pieces of this grade, provided they do not occur in too serious combination with other defects. Any amount of blue stain is permissible in otherwise high quality pieces. A type frequently found in Standard is a piece with a Sterling face, with the back showing several skips in dressing or showing cup splits. As may be judged from the above description, the grade of Standard takes in much of the lower product of the log, and although the appearance of part of the stock is coarse, it is a good general utility grade and is available in large volume.

Sizes Available

As with the Sterling, most of the Standard is shipped in specified widths and lengths, 4" to 12" and from 8' to 16', and some 18' and 20'. It is available also in 13" & wider, and in 5/4" to 8/4", but not to the same extent as is Sterling. It is also shipped resawn or ripped to smaller sizes. A great deal of the Standard is shipped worked to pattern.

Uses

It furnishes cheaper material for uses which normally take Sterling, as ceiling, drop-siding, shelving, trim for summer cottages, etc., as well as a better grade for uses which often take poorer material, like shiplap, sheathing, sub-flooring, roof-boards, etc. The grade is also recommended for boxes and crates.

Examples of Standard Idaho White Pine illustrated on opposite page

- | | | |
|--------|-----------|---|
| No. 1. | 1x8"-10' | Four red knots from 3/4" to 2 1/4" in size, and one 1 1/4" black knot and a 10" open season check showing through. Reverse side shows same knot defects and wane on both edges for 2' on end. |
| No. 2. | 1x8"-10' | Three 1" unsound knots and thirteen sound knots ranging in size from 1/2" to 1 1/2". On edge at one end is a 1/2" knot hole. Brown stain at one end for 4'. |
| No. 3. | 1x10"-10' | Ten medium knots and one branch knot 2" wide and 5" long. All the knots are red and three of them are checked. In addition three spots of torn grain. |
| No. 4. | 1x10"-10' | In addition to numerous smaller red knots has three branch knots 5" long. One of these branch knots is checked, and part of same knot is broken out in dressing. |
| No. 5. | 1x10"-10' | Three black knots, the largest measuring 1 1/2" in diameter. Near end a 3/4" knot hole. Blue stain for half the length. |
| No. 6. | 1x12"-10' | Eleven red knots from 3/4" to 2" in size and two badly checked red knots 2 3/4" in diameter. In addition two slight skips in dressing. |
| No. 7. | 1x12"-10' | Three red knots 3" in size and nine smaller red knots. Shows shake in both ends and a 16" season check in center. |
| No. 8. | 1x12"-10' | One end shows 3' containing firm red rot 9" wide. Knot defects of a Sterling. Reverse side shows slightly more rot and a few season checks. |



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Standard (No. 3 Boards) Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Utility (No. 4 Boards) Idaho White Pine

Description

The general appearance of part of this grade is coarse, due to the fact that very large knots are permitted. Other types of pieces showing large worm holes, knot holes, red rot, splits, wane or excessive heart shake, in other words, the same kind of defects as are found in

Standard, but which occur to a greater degree, place the pieces in this grade. As a rule, however, the grade contains a fair proportion of rather high quality stock, which would grade Standard or Sterling were it not for some one defect that places it in Utility. The fact that very coarse defects are permitted in Utility may cause some waste when used for certain purposes. No broken or untrimmed pieces, though, are allowed.

Sizes Available

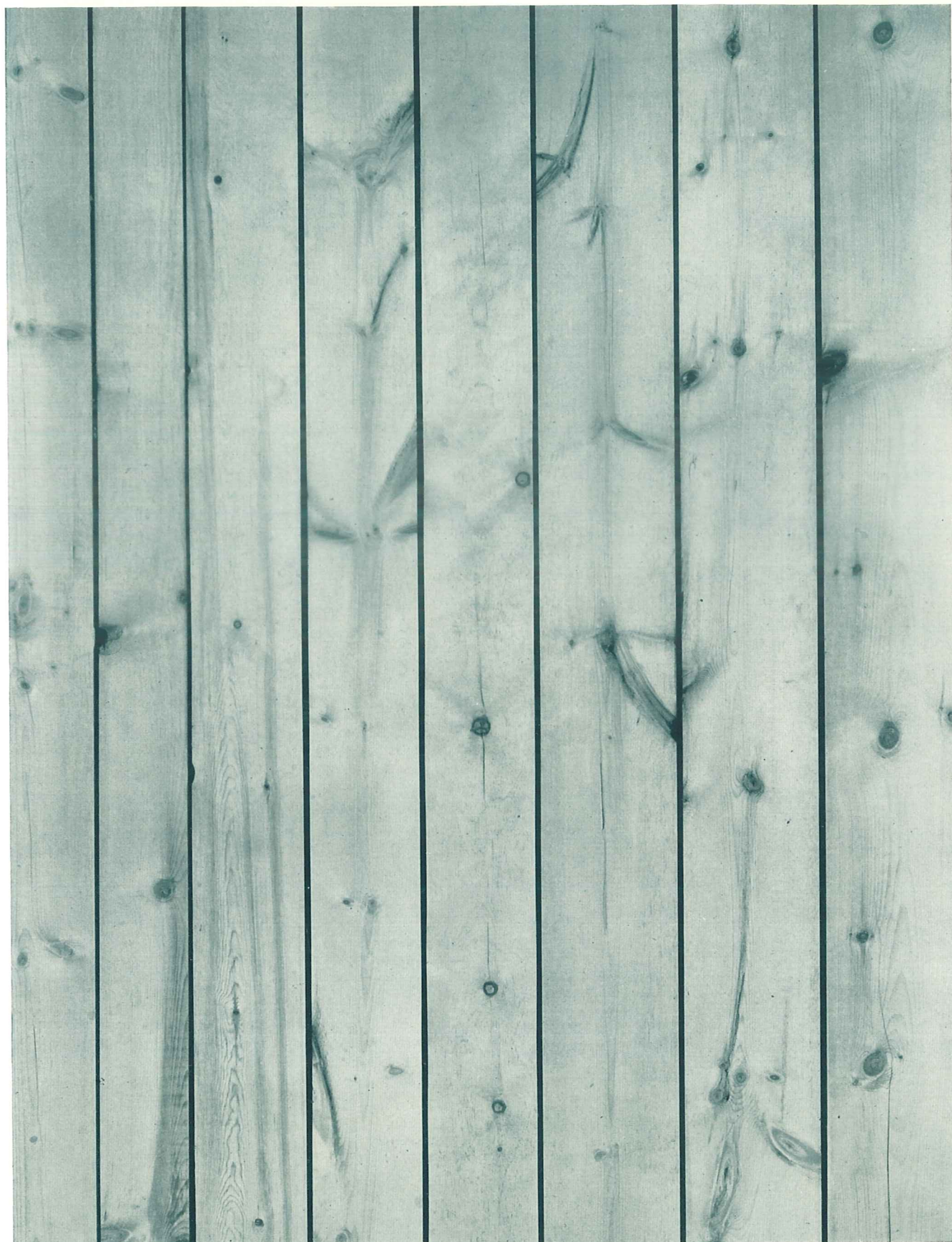
The greater part of the Utility is shipped 4" & wider and 4' and longer, with the amount of 4' to 8' lengths limited, but it is also frequently ordered in specified widths and lengths which are the same as in the higher grades of Boards. Considerable amounts are shipped resawn and some is run to pattern, such as shiplap, and dressed and matched stock. Most of the Utility grade consists of 4/4", though some 5/4" to 8/4" is occasionally available.

Uses

Utility IDAHO WHITE PINE is used as a very cheap lining lumber in residence construction. It is an important grade to box factories for boxing and crating. While waste develops in cutting out the defective portions of the lumber, the grade will produce clear cuttings or good serviceable pieces, for different kinds of boxes and crates. It is also used in industries as a cheap temporary construction material, or in places where its poor appearance will not detract from its serviceability as in uses where it is covered by higher quality lumber.

Examples of Utility Idaho White Pine illustrated on opposite page

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|------------------|---|
| No. 1. 1x8"-10' | Has the knot defects of a Sterling but is excessively shaky. |
| No. 2. 1x8"-10' | Has a 1½" loose knot and rot stain at one end and a 2" knot hole on edge. Other end shows shake, and three red knots scattered along piece. |
| No. 3. 1x10"-10' | Scattered over the face are five black knots, one of which is loose. One-third of the board shows red rot streaks varying from firm to soft, the balance shows heavy stain and two ½" knot holes on edge. |
| No. 4. 1x10"-10' | In addition to other knots has four large branch knots which materially weakens the piece and gives it a coarse appearance. One of these branch knots is broken. |
| No. 5. 1x10"-10' | Scattered over the face are four black knots averaging 1¼" in size. Two of these knots are loose. Shows five season checks 8" long. |
| No. 6. 1x12"-10' | Heart shake full length of the board and two 10" branch knots. |
| No. 7. 1x12"-10' | Has five unsound knots scattered over the face. A 1" knot hole near the edge and some red rot. |
| No. 8. 1x12"-10' | A 2" knot hole on one edge and a 1" knot hole on the other. A 3" split in one end, and half dozen knots both red and black up to 2" in diameter. |



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Utility (No. 4 Boards) Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

Industrial (No. 5 Boards) Idaho White Pine

Description

Industrial is the lowest standard grade and may contain all of the defects found in the species. The defects are generally the same as are found in Utility, but they are in more serious combination or in greater degree. Although pieces in this grade are of poor quality, every piece is properly edged and trimmed to standard sizes.

Sizes Available

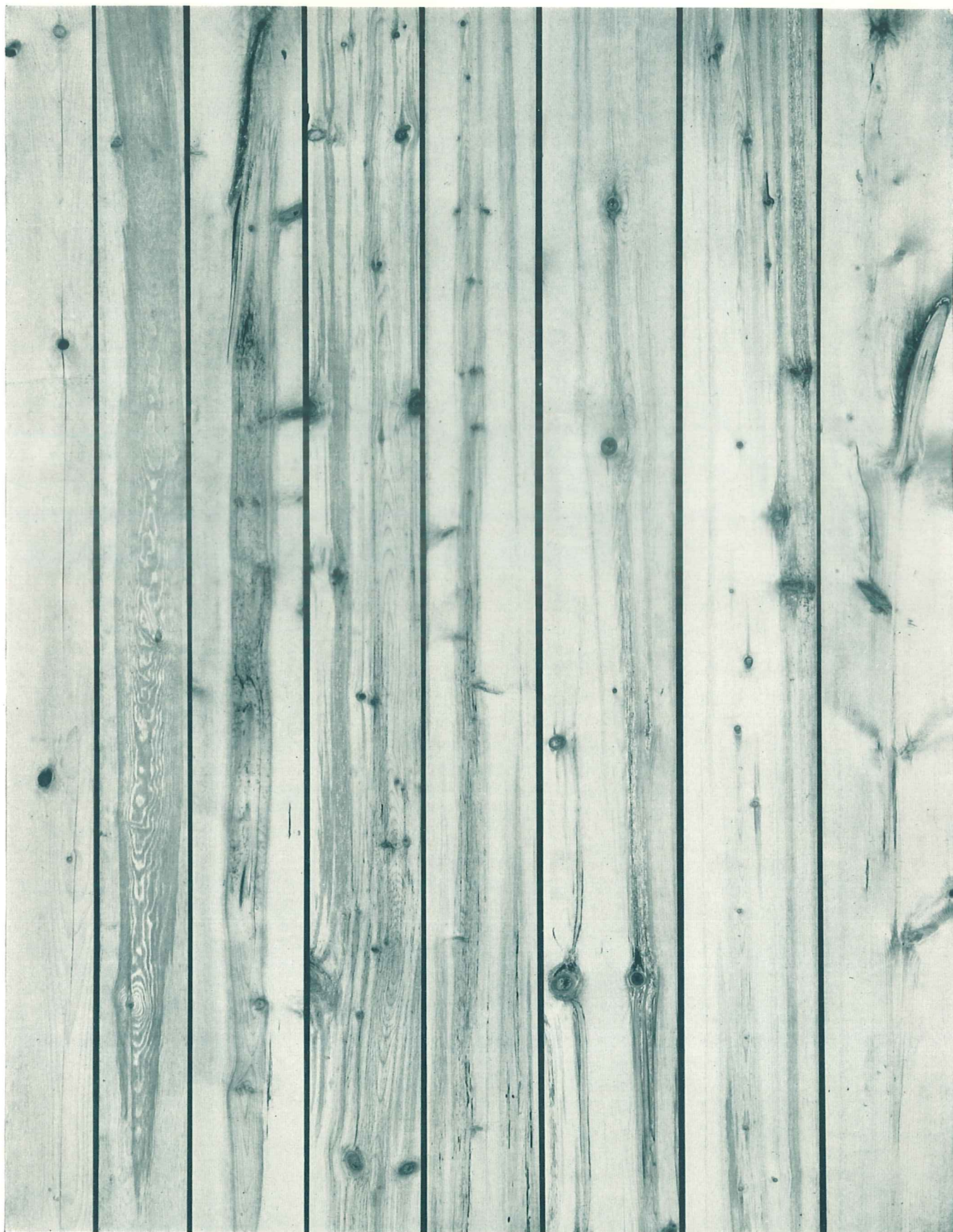
It is customary to ship this grade in mixed lengths and widths only, and such shipments consist of 6' and longer, with a small percentage of 4' stock in some cases. It is usually available in 4/4 only but occasionally some 5/4" to 8/4" may be had.

Uses

Pieces of Industrial quality are suitable for only the very cheapest uses, ordinarily of a temporary nature.

Examples of Industrial Idaho White Pine illustrated on opposite page

- | | |
|------------------|---|
| No. 1. 1x8"-10' | Three knot holes and is very badly shattered full length. |
| No. 2. 1x8"-10' | Soft rot full length but good nailing edges. |
| No. 3. 1x10"-10' | Three inches of soft rot in center nearly full length. Edges are sound. |
| No. 4. 1x10"-10' | An excessive amount of rot. |
| No. 5. 1x10"-10' | Excepting 2' of one end has good nailing edges, but shows a great deal of rot on the balance of the board varying from firm to very soft. |
| No. 6. 1x12"-10' | Shows eight unsound knots and considerable red rot. |
| No. 7. 1x12"-10' | Has seven unsound knots and considerable soft rot over one-half of the board. |
| No. 8. 1x12"-10' | Has a 16" broken branch knot and a great deal of shake. |



1

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7

8

Industrial (No. 5 Boards) Idaho White Pine

8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

B & Btr Bevel Siding—Idaho White Pine

Description

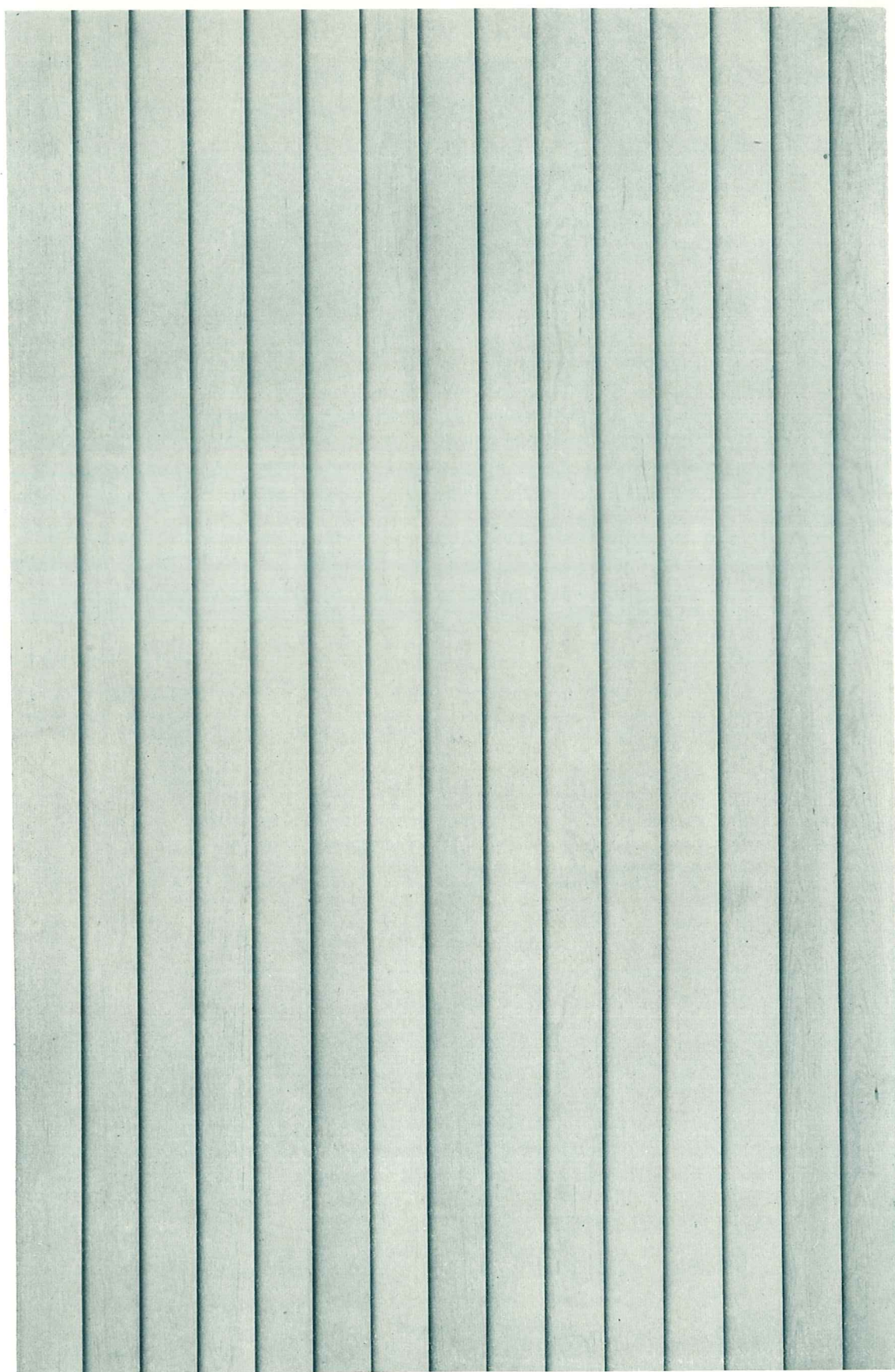
B & Btr Bevel Siding is the highest grade of Siding made, and is unsurpassed in either appearance or quality. This grade insures an extremely smooth painting surface, as the greater part of it is practically without even minor blemishes and the general appearance of the grade is clear. The very small defects permissible are one or two small or pin knots, light stain or slightly torn grain, or a very small dry pitch pocket that does not go through the piece. Taken as a whole it is a Bevel Siding par excellence.

Sizes Available

Bevel Siding in all grades consists of 1" lumber surfaced on four sides, resawn diagonally, the thin edge of the resawn pieces measuring $3/16$ " and the thick edge $7/16$ ", in nominal widths of 4", 5" and 6". Finished widths $1/2$ " less than nominal in all widths. Shipments of Bevel Siding may contain odd lengths shorter than 8' but only in limited quantities. Lengths are largely 8' and longer, though pieces down to 3' are permitted in a shipment. All stock is tied in bundles. Wider widths are known as Colonial or Bungalow Siding and are usually resawn from $5/4$ " lumber.

Examples of $1/2 \times 6$ "-10' B & Btr Siding Idaho White Pine illustrated on opposite page

- No. 1. Very light traces of pitch, otherwise perfect.
- No. 2. A perfect piece.
- No. 3. One small pin knot. Slight roughness in milling on thick edge.
- No. 4. Light pitch for 2' on end.
- No. 5. One dry pitch pocket $3/4$ " long and $1/16$ " wide.
- No. 6. Small amount fuzzy grain.
- No. 7. A perfect piece.
- No. 8. A perfect piece.
- No. 9. A very small season check about 3" long.
- No. 10. Three small pitch seams.
- No. 11. One pitch pocket $1/8$ " wide and $1 1/4$ " long. Dry and does not show through.
- No. 12. One small pin knot.
- No. 13. One light blue crossing stain near center.
- No. 14. One pin knot and very small pitch pocket.
- No. 15. Two pin knots and one small spot torn grain.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
SCALE 1 INCH=1 FOOT

B & Btr Bevel Siding Idaho White Pine
6-inch Widths (lapped)

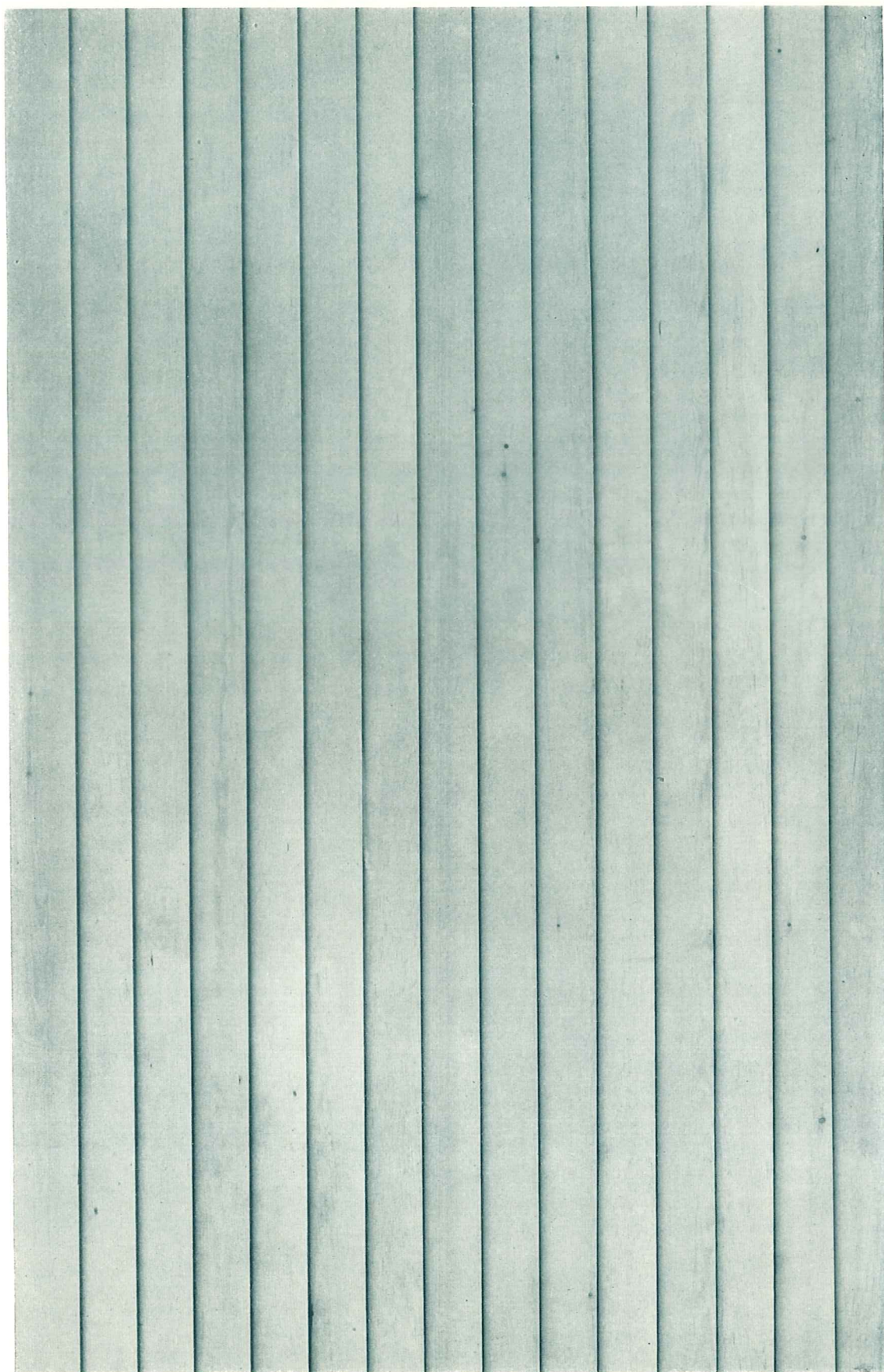
C Siding—Idaho White Pine

Description

C Siding is the next grade to B & Btr and is a good, high class grade for any job where highly serviceable Beveled Siding is required. Defects requiring a cut not to exceed 4" of waste are allowed in pieces 12' long or longer, providing the balance of the piece is approximately of B & Btr quality. The amount permissible of this type of pieces is limited. Occasional small knots, light pitch, medium stain, slightly torn grain, season checks, or similar defects are recognized in this grade but no serious combination of defects is permitted in any one piece and the grade therefore always retains its good appearance and smooth painting surface.

Examples of $\frac{1}{2}$ x6"-10' C Siding Idaho White Pine illustrated on opposite page

- No. 1. Shows two pin knots and two small pitch streaks. These defects are well scattered.
- No. 2. A pin knot and one medium and one light crossing stain.
- No. 3. Small pitch pocket 4' from end. Two medium crossing stains.
- No. 4. Slightly torn grain in one place and a very small pitch pocket showing through.
- No. 5. Two very small pitch pockets and a pin knot.
- No. 6. One not firmly set pin knot 1' from end and a pin knot on edge which covers.
- No. 7. Light stain over three-fourths of the face.
- No. 8. One pin knot and four small season checks.
- No. 9. Two pin knots. Small season checks showing for 3'.
- No. 10. Four pin knots well scattered and 4' of light stain.
- No. 11. Two spots of torn grain and one pitch pocket $\frac{1}{8}$ " wide.
- No. 12. Five spots of slightly torn grain, two of which will cover, and one very small pitch pocket.
- No. 13. Light pitch over the face and a torn defect on edge, which will cover when laid.
- No. 14. Five pin knots well scattered.
- No. 15. Light pitch over the face, no other defects.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SCALE 1 INCH=1 FOOT

C Bevel Siding Idaho White Pine
6-inch Widths (lapped)

D Siding—Idaho White Pine

Description

Although the quality is lower and the waste somewhat greater than in C Siding when properly applied and kept well painted the grade of D Siding will present a very good appearance with no suggestion that a cheap grade of Siding has been utilized. Observation of jobs where D Siding was put on a good many years ago shows a trim, fresh looking, and sound-as-a-dollar outside wall covering. The "staying-put" quality of the wood gives the buyer the assurance of tight and close fitting corners. Defects requiring one cut in 10 ft., two cuts in 12 ft. and longer, and waste for each cut not to exceed 4" are allowed in otherwise high line pieces, but only a limited amount of this type can be included. This grade will admit of considerable pitch and season checks. With or without either of these defects a piece may have a number of small knots well scattered or medium stain covering the face in otherwise high grade pieces. Coarse and very knotty pieces are excluded and the grade therefore retains a Select appearance.

E Siding—Idaho White Pine

Description

The grade of E Siding is always manufactured from stock that is intended to produce D & Btr Siding and therefore usually consists of stock falling just below D Siding. This has a tendency to make it higher in appearance than would be the case if it were manufactured from ordinary Boards. Since E Siding is the lowest grade of Beveled Siding it will admit more numerous and serious defects than those admitted in D Siding. Pieces showing imperfect manufacture are admitted in this grade. This grade develops some waste because of the presence of some defects too serious for the entire piece to be used, but will be found serviceable and economical in low cost construction if kept well painted.

Standard Grade Moldings—Idaho White Pine

Standard Moldings assure the buyer of a product practically free from defects, smoothly milled, bright, clean, and with properly trimmed ends. Proportionately to size, this grade has the same general high quality and appearance as C & Btr Bevel Siding, with only smooth, minor blemishes permitted in the usually quite small part of the grade corresponding to the C, and generally clear and free from defects in the part corresponding to the B & Btr grade of Bevel Siding. The percentage of the cutting type is limited. All Moldings receive an extra rigid inspection at the mills. They may be ordered Standard Grade, or, in the case of Moldings, 3" wide or wider may be ordered separately or mixed in any of the regular lumber grades, provided for by the Association rules. Moldings are usually sold by the lineal foot. The wide Moldings, such as Casing and Base are also sold on a board measure basis.

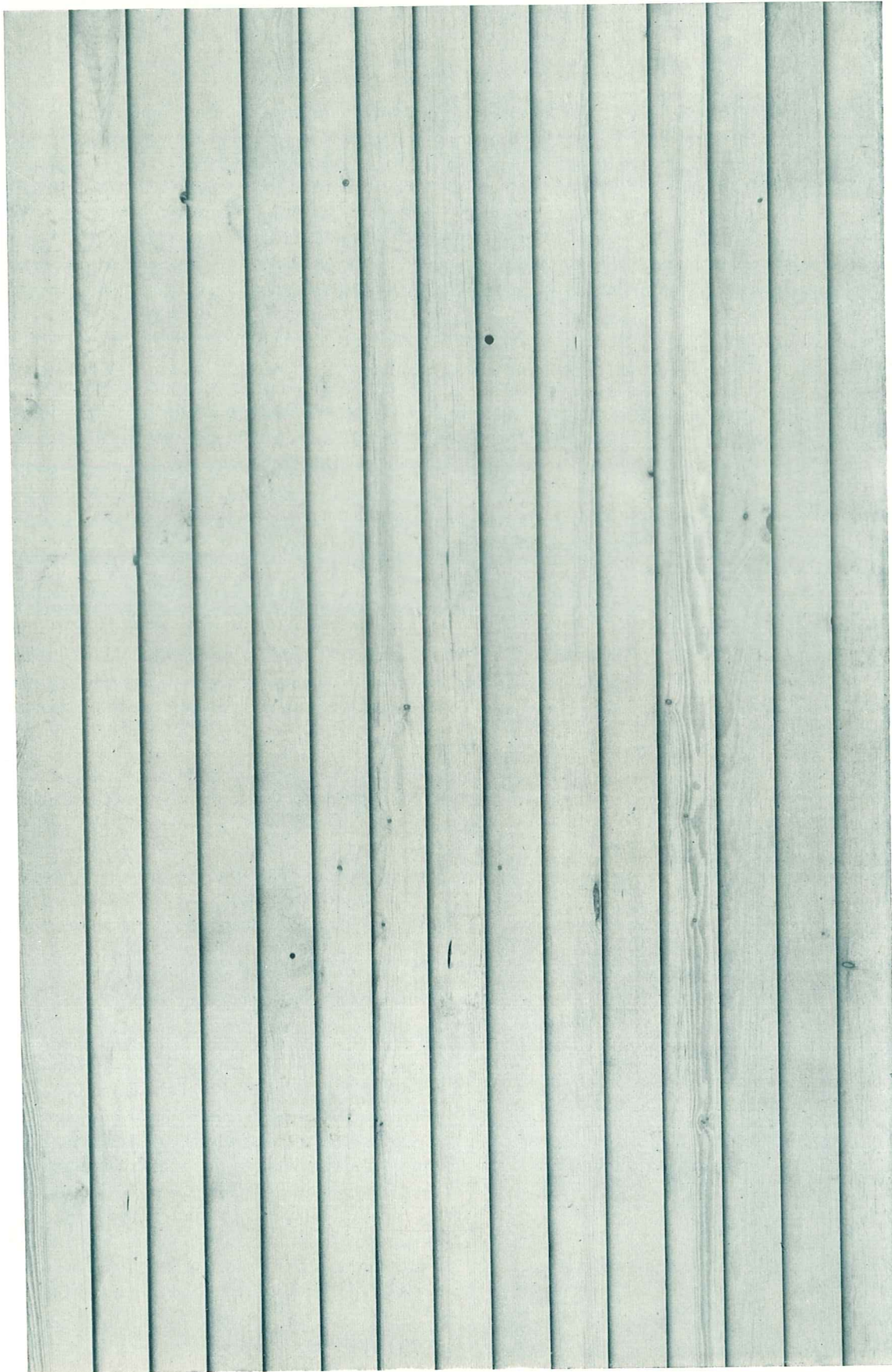
The well known soft and even texture of IDAHO WHITE PINE is especially adapted and widely used for fine Moldings.

Sizes Available

IDAHO WHITE PINE Moldings are procurable in all standard Molding Book patterns and, are also manufactured to special designs when so ordered. Lengths measure 4' and longer in multiples of 1', but the amount shorter than 8' is small.

Examples of 1/2"x6"-10' D Siding Idaho White Pine illustrated on opposite page

- No. 1. Rough milling in four places and one pin knot.
- No. 2. One small pitch pocket. On the thick edge a piece has been chipped out, leaving a slough 3/4" long and 1/4" deep.
- No. 3. Two feet from end has a knot hole requiring a cut. Three slightly stained spots scattered over balance of board.
- No. 4. Has one loose knot on edge which covers, medium stain over face.
- No. 5. Crossing stain in three places and two pin knots.
- No. 6. Five pin knots with two medium crossing stains.
- No. 7. Five pin knots, one of which is not firmly set.
- No. 8. Two pitch pockets on thin edge and both will cover. Balance of piece shows one small open pitch pocket, a pitch streak 6" long and two spots of stain.
- No. 9. Three feet from end has a 3/4" knot hole. Balance of piece shows one small pin knot and light pitch.
- No. 10. One bark pocket 1/4" wide and 2 1/2" long, and three very small pitch pockets. A spot of torn grain will partly cover when laid.
- No. 11. Part of a pin knot on thick edge has broken out. Balance of piece shows slightly torn grain.
- No. 12. Seven pin knots, two of which will cover. A pitch streak 8" long and 4" of rough milling on thick edge.
- No. 13. One 1" red checked knot on thick edge and two pin knots.
- No. 14. One 1/4" knot hole on thick edge and one pin knot. Medium pitch in one end for 2'.
- No. 15. A torn defect on thin edge will cover. Balance of piece has 12" of red stain and one knot 3/4"x1 1/8".



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SCALE 1 INCH=1 FOOT

D Bevel Siding Idaho White Pine
6-inch Widths (lapped)

Inch Shop—Idaho White Pine

Description

Inch Shop is 4/4 lumber of a cutting type determined by the percentage of cuttings suitable for general millwork. The detailed sizes of these cuttings and their quality are shown in the Association grading rules.

Sizes Available

Inch Shop is invariably shipped 5" wide and wider random widths and lengths, the greater part of a shipment usually being 8" & wider and 10' & longer, although shorter lengths are permitted if each piece contains the required percentage of cuttings. Its thickness is the same as 4/4 Select and Boards in surfaced stock or 25/32", although in some instances 13/16" hit or miss may be obtained.

Uses

Inch Shop is used in general millwork plants and specialty factories where it is cut to advantage for many articles produced at these concerns.

Examples of Inch Shop Idaho White Pine illustrated on opposite page

- | | |
|------------------|--|
| No. 1. 1x8"-10' | Has one cut 6" wide and 3'-4" long with perfect face. The other cutting is 6" wide and 5'-5" long, and is perfect with exception of one 3/8" firmly set black knot. |
| No. 2. 1x8"-10' | One cutting which is full width of piece and 7'-6" long. Face has one 1/2" firmly set black knot, and the back shows two small dry pitch pockets. |
| No. 3. 1x10"-10' | One cut 9 1/2" wide, 2'-2" long, perfect on both sides; the other cutting is 9" wide and 5'-8" long, perfect face with one 3/4" knot and small crossing stain on the back. |
| No. 4. 1x10"-10' | Cutting at one end is 8 1/2" wide and 3' long. Has 1/2" of medium blue stain 12" long. Other cut is 8" wide and 5'-6" long, free of defects. |
| No. 5. 1x10"-10' | Cutting at one end is 7 1/2" wide and 3'-10" long. Other cutting is 9" wide and 3' long. There is one small patch of torn grain on each of these cuttings. |
| No. 6. 1x12"-10' | One cutting is 6 1/2" wide and 4'-6" long, perfect on both sides. Other cutting is 11" wide, 4'-2" long, perfect face, two small black knots on reverse side. |
| No. 7. 1x12"-10' | One cutting is 9" wide and 4' long, face has one small spot of light torn grain, otherwise perfect. Other cutting is 6 1/2" wide and 3'-8" long, with perfect face. |
| No. 8. 1x12"-10' | Cutting at one end is 8" wide, and 3' long, face perfect and back has one pitch pocket 1/4"x2". Other cutting is 10" wide and 5' long. Face has one very fine season check 2" in length. |

Factory Select (No. 3 Clear) Idaho White Pine

Description

Factory Select is the highest grade of Factory lumber, and is intended for use by sash and door factories and other similar concerns. It is graded and its value lies in the percentage of clear cuttings that can be sawn from a plank in sizes suitable for manufacture into various parts of a door, rather than upon the appearance or quality of the entire piece, as is the case in ordinary Yard lumber, such as in Select and Board grades. In Factory Select not over two muntins are admissible in any piece and no piece is included in the grade if it contains muntins only. In 5/4 and thicker material the grade is determined from the poor side. Detailed descriptions of the sizes and grades of the cuttings in Shop lumber are given in the official grading rules of the Western Pine Association.

Sizes Available

This grade is available in 5/4", 6/4" and 8/4"—Rough or S2S and in some instances 10/4" to 16/4" may be secured. Widths range from 5" upwards, with a large percentage measuring 13" & wider. Lengths are 6' and up, with the greater part of any shipment 10' and longer, and usually running heavy to 16'. Surfaced sizes allow an extra 32nd inch for sanding in 5/4" and 6/4", and 1/16" in 8/4" over finished sash and door sizes.

Uses

Factory Select is highly recommended for its cutting qualities and is well suited for manufacture into a number of millwork articles as well as for manufacture into Doors. It is worked up into Moldings and Trim with practically no waste and is used for foundry pattern purposes. It furnishes a large percentage of door stiles.

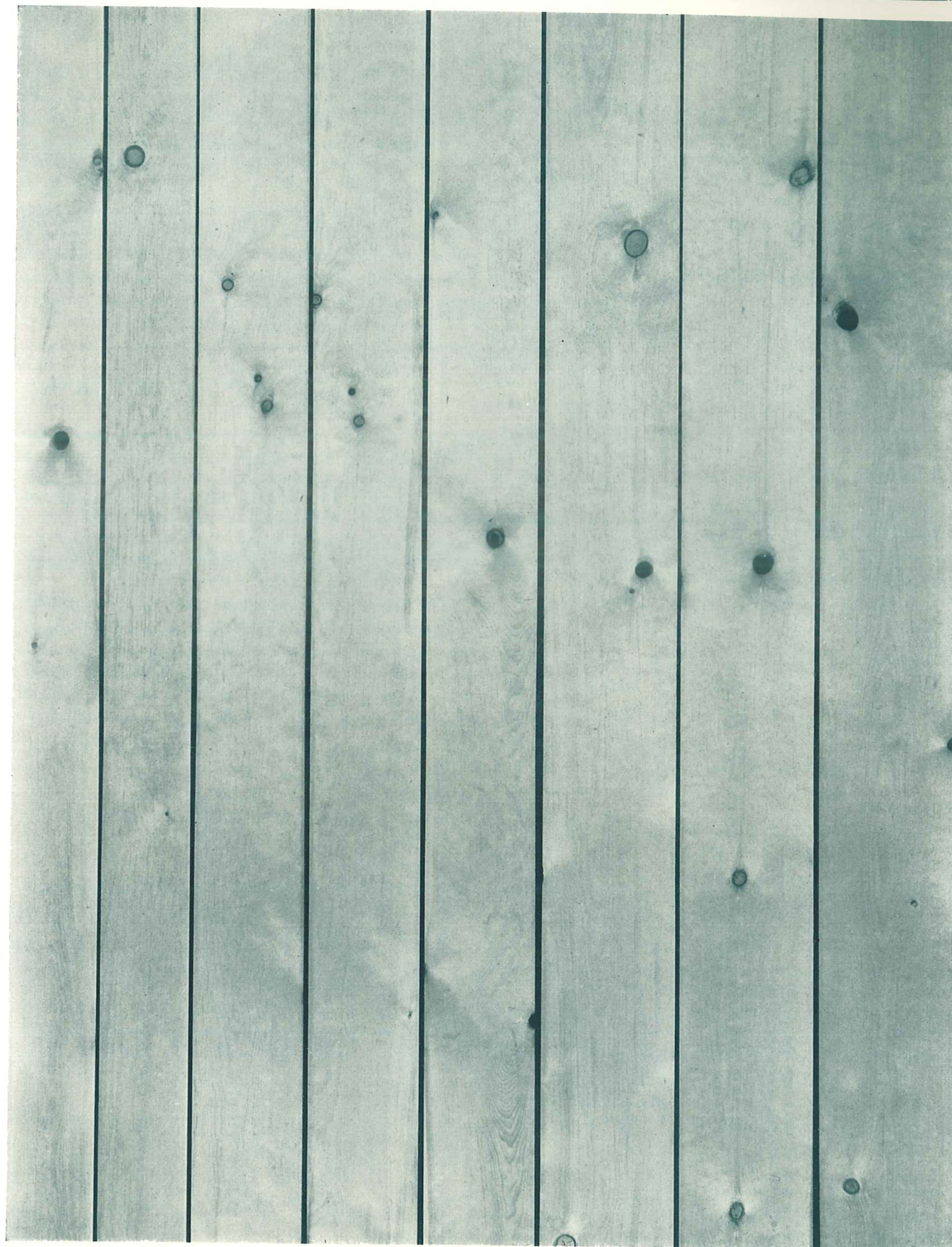
No. 1 Shop Idaho White Pine

Description

No. 1 Shop is the second highest cutting grade intended for Factory use and its value is based on the percentage of clear or almost clear cuttings of the various sizes each piece contains, and is always graded from the poor side. The requirements of this grade are that each piece contains from 50% to 70% of door cuttings, all No. 1 quality, except that it may contain one No. 2 stile. Only two grades of door cuttings are recognized, No. 1 and No. 2, the former free from defects on both sides, the latter admitting one minor defect.

Sizes Available

Same as Factory Select.



Inch Shop Idaho White Pine
8, 10 and 12-inch Widths

SCALE 1 INCH=1 FOOT

No. 1 Shop (Cont'd.)

Uses

No. 1 IDAHO WHITE PINE Shop lumber is regarded very highly. It is used at millwork plants for many articles, and for foundry patterns. Its chief characteristics are freedom from warp and twist. The knots being well scattered increases the number of long clear cuts, so desirable in the factory.

No. 2 Shop—Idaho White Pine

Description

Each piece of No. 2 Shop produces one of the following percentages of door cuttings:

25% of No. 1 cuttings.

33 $\frac{1}{3}$ % of Mixed No. 1 and 2 cuttings.

40% of No. 2 cuttings, in the same sizes as specified for No. 1 Shop, and including top rails, which must be of a No. 1 quality but are counted as No. 2 cuttings.

Detailed descriptions and sizes of these cuttings are shown in the Association Grading Rules.

Sizes Available

Same as Factory Select and No. 1 Shop.

Uses

No. 2 IDAHO WHITE PINE Shop is consumed by the industrial trade, by pattern makers, and by woodworking plants producing doors, sash, frames, trim and moldings.

No. 3 Shop—Idaho White Pine

Description

No. 3 Shop includes all pieces 5/4" and thicker below the grade of No. 2 Shop, with the specific provision that they must be of a cutting type suitable for sash, door or other cuttings. Therefore all pieces showing the greater part of the area as ordinary yard Boards, although having a small percentage of valuable cuttings on the edge or edges, are not considered a cutting type, and not included in this grade.

Sizes Available

The sizes of No. 3 Shop are the same as for No. 1 and No. 2 Shop, that is as to widths, lengths and thicknesses, except that a very limited percentage of a shipment can be narrower than 5" and not less than 2 $\frac{1}{2}$ " in width.

Uses

No. 3 Shop is valued chiefly for sash cuttings, but this grade also produces a good many other valuable cuttings desirable for manufacture into frames, sills, moldings and trim.

Idaho White Pine Lath

Two grades of IDAHO WHITE PINE Lath are made, No. 1 and No. 2. The No. 1 is a very high grade, the greater part of it being perfect and the balance having only small defects, such as small tight knots or a very small amount of wane. No. 1 Lath is used in the finest kind of plaster work. They are clean, bright and thoroughly dry. No. 2 Lath is just as expertly manufactured and inspected as No. 1 Lath, every effort being made to eliminate pieces that will break easily and those having defects that might interfere with the use of the Lath. Special care is taken to see that every lath has two good ends for nailing and permitting only an occasional knot hole or loose knot, firm streaks of rot, worm holes, pitch and pitch pockets, season checks or other defects that by themselves or combined do not seriously impair the usefulness of the piece.

Sizes Available

Lath are 1 $\frac{1}{2}$ " wide and 3/8" thick with a small variation allowed. Two lengths are made in No. 1 Lath, 48" and 32". In No. 2 Lath 48" only.

Uses

IDAHO WHITE PINE lath are preferred for the better jobs. Their soft texture insures easy and clean cutting, without splitting. They do not buckle, shrink or swell, are easy to nail, run true to thickness, uniformly graded and thoroughly dry. IDAHO WHITE PINE Lath are also extensively used for shade frames, woven fences and trellises.

Official Grade, Trade and Species Marks Applying to Idaho White Pine Lumber



The official marks of the Western Pine Association on lumber manufactured by its member mills are similar to the examples shown above, and include four essential elements, as enumerated below.

1. **Association mark.**—The symbol indicates that a piece bearing this mark is graded under the standard grading rules of the Western Pine Association and signifies Association supervised grading, standard sizes and seasoned stock. The symbol is registered and may be used only when authorized by the Association. Stock shipped by non-member mills may carry this mark when graded and certified by an Association inspector.

2. **Mill identification.**—The source of marked lumber may be identified by the use of the firm name, a brand or a registered number. Each member mill of the Western Pine Association is assigned a permanent mill number for lumber marking purposes. The Association is not at liberty to reveal the identity of a mill using a designated number without the consent of the management of the mill concerned. Any inquiries for such information are referred to the member mill for decision and further action.

3. **Grade name.**—This element of the mark shows the standard grade name referred to in the standard grading rules, that applies to the piece so marked.

4. **Species mark.**—The kind of wood is positively identified by the species mark. This mark is registered in the U. S. Patent Office and denotes that the piece is Idaho White Pine. Other woods covered by the grading rules are identified by appropriate marks, either showing a designating symbol, the full name of the species or a recognized abbreviation.

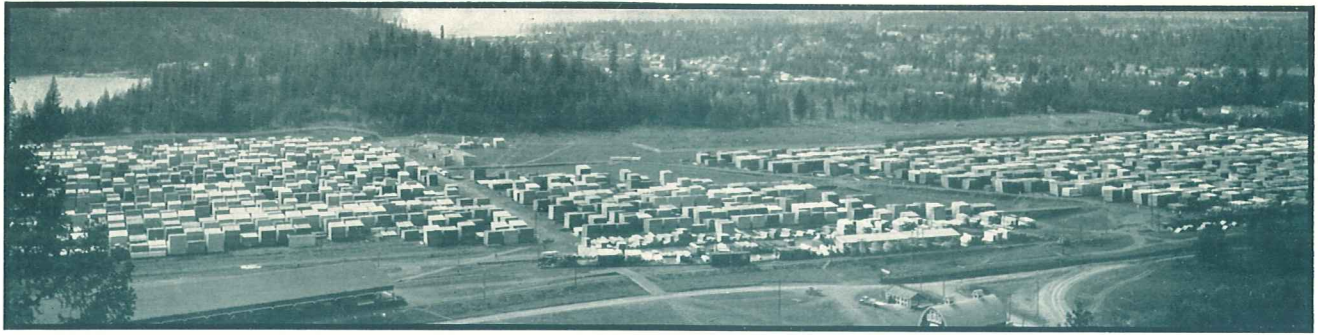


Lumber Inspector's Certificate.—When an official inspection certificate, issued by the Western Pine Association, is required on a shipment of lumber and the official grade marks are not used, the stock is identified by an imprint of the Association mark and the number of the shipping mill, as shown in this example.



These marks are protected and can be rightfully placed on lumber only by Western Pine Association inspectors or by qualified graders at plants of member mills whose grading practices are given regular periodic inspections by the Association's Bureau of Grades, under whose jurisdiction the marks are authorized to be used.

The constituent mills of Western Pine Association will grademark stock they ship when requested by the buyer.



Large air-seasoning yards provide ample storage space for millions of feet of Idaho (genuine) White Pine, much of which is available for immediate shipment.

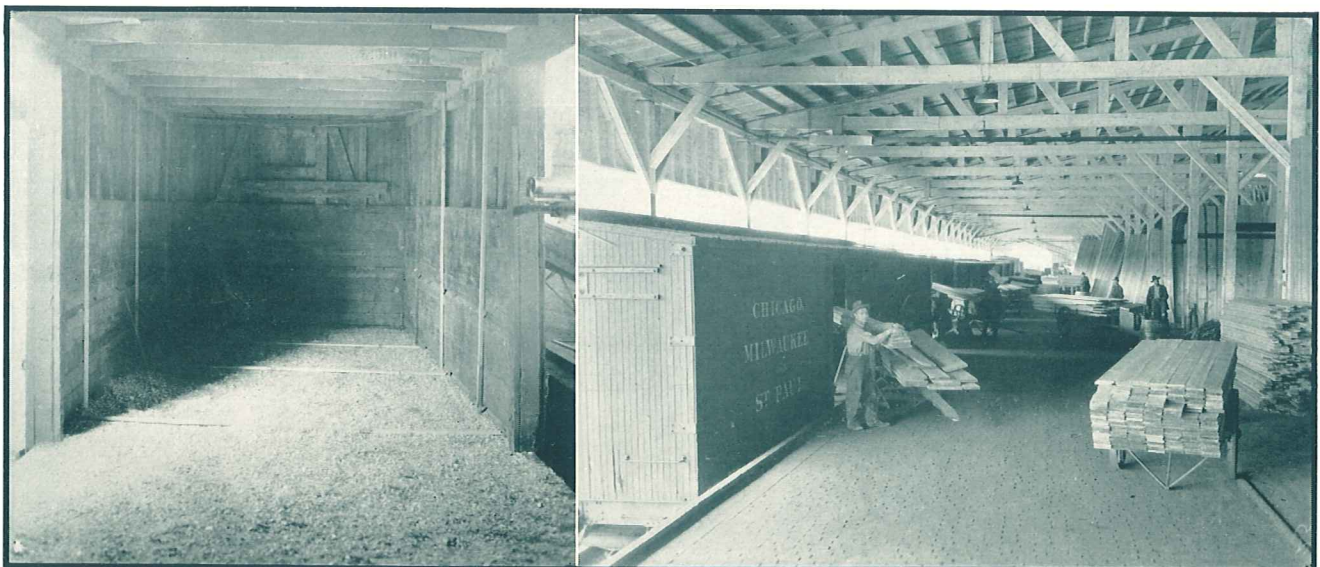
Distribution of Idaho White Pine

IDAHO WHITE PINE is carried in stock in several sizes and grades at retail lumber yards in various parts of the United States. It is also remanufactured into porch columns, porch and stair work and other special mill-work. During 1936 shipments of IDAHO WHITE PINE were made from the mills into 43 states.

Improved railroad freight service has facilitated the quick movement of lumber and planing mill products from the mills to various distributing centers so that short-time deliveries can ordinarily be counted on even if shipment is made direct from the mill. The manufacturers of IDAHO WHITE PINE have prepared themselves for such contingencies and at all times carry large stocks of seasoned material in their storage yards and under cover in dry sheds. A distinctive feature of these stocks,

in contrast with the usual practice at mills in other districts, is that the lumber is segregated and ordinarily sold in specified widths and specified lengths. This practice is especially noticeable in the Board grades which elsewhere are often sold in random widths and lengths. It affords the buyer a convenient source of supply for material that will more closely approach the specific requirements. Mixed car orders or purchases of carload quantities can be handled equally well.

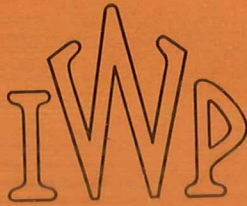
The Western Pine Association will gladly assist any interested party in locating an ample supply of IDAHO WHITE PINE should any difficulty in this direction be encountered. Correspondence should be addressed to the Association offices, 510 Yeon Building, Portland, Oregon.



Close attention is given to the handling of shipments of Idaho White Pine to insure the careful loading of such a high quality product, at any season of the year.

The Western Pine Association whose producing territory embraces the States of Arizona, California, Colorado, Idaho, Montana, New Mexico, Oregon, South Dakota, Washington, Wyoming, and British Columbia, is comprised of 150 lumber manufacturing concerns.

Sales are handled by the individual companies and their agents in the principal distributing centers. A list of the member companies will be furnished on request.



IDAHO WHITE PINE
Trade Mark Registered